HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY

BY JOHAN FEIN

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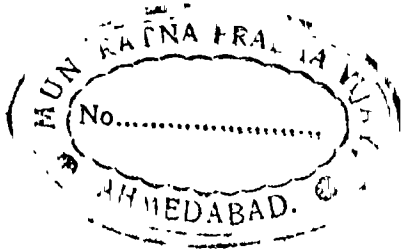

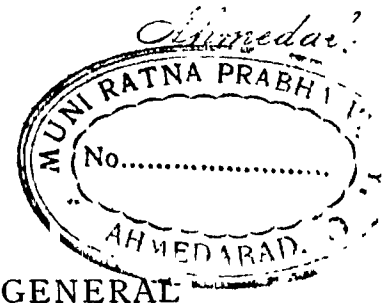

HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY

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A PRACTICAL TREATISE ON THE DISEASES OF THE PHARYNX AND LARYNX. By Dr. E. J. MOURE, Lecturer on Laryngology, Otology, and Rhinology at the Medical Faculty of Bordeaux. Only authorized Translation by JOHN MALCOLM FARQUHARSON, M.B., C.M. Edin., F.R.C.P. Edin., etc.

The British Medical Journal says: 'The book in its English dress represents the views of a French physician who has gained a high reputation in his speciality. ' In reviewing the French edition we said that the whole book gave evidence of the author's great experience in practice as well as in teaching, and that it would give great satisfaction to readers, whether practitioners or students. It cannot be doubted, therefore, that Dr. Farquharson has laid the English profession under a debt of gratitude.'

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HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY

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TRANSLATOR'S PREFACE

I FEEL that I owe a slight apology to the English-speaking medical world for being instrumental in introducing to its notice yet another small book upon the subjects of rhinology and laryngology. I think, however—and I feel certain that those who have read the book will think so with me—that it is in many ways a marked improvement upon works of a similar kind and size.

Having worked under Dr. Fein's personal instruction at his clinic in the Imperial Wieden Hospital, Vienna, and fully appreciating the success with which perfect attention to detail has crowned his work, I am glad to have this opportunity of making some of the principles taught by him a little better known.

I only hope that the book will meet in England with a little of the success which it has already obtained in Germany and Austria.

I wish to express my thanks to Dr. Fein for the confidence he has placed in me.

I am also indebted to my publishers, Messrs. Rebman Ltd., of London, and the German publishers, Messrs. Urban and Schwarzenberg, of Berlin and Vienna, for the courtesy they have shown me.

J. BOWRING HORGAN.

11, SIDNEY PLACE, CORK,
July, 1910.

AUTHOR'S PREFACE

It requires much practical experience to acquire a technical knowledge of the methods of examination, treatment, and operation employed in rhino- and laryngology. The student or the medical practitioner can, therefore, hardly be expected to have acquired an extensive knowledge of these subjects, either practical or theoretical. Many doctors never take up this study at all, others relinquish it after making one unsuccessful attempt, and others, again, learn the essential parts of the groundwork in a few weeks, but quickly forget it, owing to a lack of opportunity for further practice. It can hardly be supposed that these conditions will ever be otherwise, because experience teaches us that specialization in these branches of surgery must tend rather to increase than to diminish.

We may, however, in two ways be of help to general practitioners: on the one hand we may instruct them as to the importance of our speciality by introducing significant cases to their notice, and on the other we may demonstrate to them those diagnostic and therapeutic principles which it is possible for them to put into daily application, even though they are

not masters of the technique of rhino- and laryngoscopy.

A limited but applicable knowledge of these subjects is of much greater importance for the general practitioner than an extensive knowledge which he is unable to properly apply.

In these introductory sentences are to be found both the purpose and the contents of the little work which is here presented—practical hints in rhino-, pharyngo- and laryngology for doctors who have not sufficient confidence in their knowledge of these subjects.

The classification adopted in a book of this sort cannot, of course, be strictly scientific; practical requirements are answered much better by classifying the various diseases according to the most striking symptoms which they present to the examiner.

Those sections devoted to diseases which may be satisfactorily treated by the general practitioner are isolated and worked out in detail. On the other hand, those sections are curtailed which deal with matters that belong entirely to the specialist; but the reader will, however, be well repaid by paying due attention to the facts which they contain.

Those readers who are not in agreement with the style which is adopted in this book should remember that it is not intended as a book of reference or a textbook, and that the matter presented simply corresponds to the personal views and experience of the writer.

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Chirurdarid.

HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY

DISEASES OF THE NOSE

THERE are two methods by which the interior of the nose may be examined and treated. In the first place it may be done from the front, through the anterior nasal apertures (anterior rhinoscopy), and in the second place from the naso-pharynx through the choanæ (posterior rhinoscopy). The first of these methods may be made use of to a certain extent by the general practitioner; the latter will however not meet with much consideration here, since it cannot be supposed that a general practitioner, who has scarcely any opportunity to practise it, has learnt the technique of a method which presents even more difficulties than laryngoscopy.

Diseases of the Nose which can be Recognized and Treated by Anterior Rhinoscopy.

These diseases may be diagnosed and treated without using any instrument, or with the help of a nasal speculum.

I. The Examination and Treatment of Nasal Diseases without the Help of a Speculum.

The examination is conducted as follows: The patient is directed to bend his head backwards, the examiner at the same time elevating the tip of the nose by pressure applied with his left thumb, and so bringing the nasal vestibules into view (Fig. 1). Inspite of its simplicity, the employment of this method may give different results.

FIG. 1. — EXAMINATION OF THE NASAL VESTIBULE BY ELEVATION OF THE TIP OF THE NOSE.

The diseases which can be recognized by this method, either are or are not accompanied, by a painful condition of the external parts of the nose. It is important to know that the disease is almost invariably situated externally if the patient complains of marked pain, this symptom being almost always absent in diseases of the interior of the nose. By bearing this fact in mind, the examination may at once proceed in a definite direction.

Pain in this region is usually due to an **inflammation of isolated hair-follicles in the nasal vestibule** (folliculitis vibrissarum), and may result in the formation of small abscesses. The position of the latter may often be indicated on the outside of the nose, by a circumscribed redness and swelling of the skin. On the inner surface of the alæ nasi is found either a little abscess,

or a crust of dried pus which is situated upon an inflamed base, with a hair protruding from its centre. These inflamed follicles often lie hidden in the recess which is formed at the anterior part of the nasal vestibule; it is therefore important that the patient be directed to hold his head far back, and that the tip of the nose be well raised, so that this part of the nose may be properly inspected. The spreading inflammatory œdema which accompanies this affection should not be confused with erysipelas, which disease, as is well known, frequently has its point of origin at the nasal aperture. Erysipelas is accompanied by fever, the swelling and redness are not sharply circumscribed, and there is an absence of any suppurative focus. The swelling present in erysipelas is not very sensitive to the touch, whereas great pain will be experienced on touching suppurative follicles or the parts in their immediate neighbourhood.

The little abscesses are brought to maturity by means of warm applications, and then incised on the inside, the nasal vestibule being afterwards protected by the insertion of a strip of gauze moistened by some soothing lotion. When making the incision it is necessary to preserve the strictest asepsis.

As regards the liability of the nose to infection, it may be here stated that this liability is not very great. This is due to the marked bactericidal properties of the nasal secretion, and accounts for the relatively seldom occurrence of suppuration in this region, even though it is not possible to operate under thoroughly aseptic conditions. This protective arrangement, however, only applies to the mucous membrane proper, and does not influence the epidermal lining of the nasal vestibule. This region is therefore frequently a point of origin (also after opera-

tive manipulations) of the more serious forms of inflammation, the commonest being erysipelas.

The repeated occurrence of attacks of folliculitis can be best prevented by the insertion of gauze plugs smeared with ointment. The plugs should be about as thick as the little finger, only one being inserted each night, so that the other half of the nose may be kept free for respiratory purposes.

It is not necessary to use any particular ointment (a 1 per cent. white precipitate ointment is commonly employed), but the method of its application is of importance. It is not sufficient to merely smear the inside of the nasal aperture. It is necessary to insure, by means of the gauze plug, that the ointment is in intimate contact with the skin for a considerable period.

The same treatment is required for **eczema** of the anterior nasal aperture. This occurs most commonly in children, and may become very chronic, giving rise to indurated œdema of the nose and upper lip; this is due to the fact that the original cause of the disease (adenoids, hypertrophic or atrophic rhinitis, foreign bodies, etc.) is usually accompanied by either a qualitative or quantitative abnormality of the nasal secretion, and does not obtain proper consideration in the treatment adopted. It should therefore be made a rule to have the interior of the nose properly examined in those children who have a chronic or repeatedly occurring eczema of the nasal aperture. Scrofulosis favours the origin of this form of eczema, and must therefore be treated at the same time.

There are two other diseased conditions of the nasal

aperture besides those already mentioned which are accompanied by pain, and which though usually not important in themselves, are nevertheless capable of causing the patient much worry. One of these is due to the presence of **excoriations** at the entrance of the nose, and the other to the formation of **crusts** on the anterior part of the nasal septum. These conditions may be best treated by the insertion of a gauze plug as already described.

Those conditions now about to be described usually occur without causing pain.

Septal abscess is commonly met with in children, and is almost invariably secondary to a hæmatoma resulting from a fall. The parents bring the child to the doctor, either because they notice a swelling on looking up the nose, or because they remark that the child is unable to breathe through its nose.

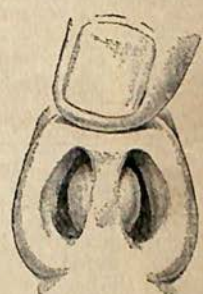


FIG. 2.—ABSCESS OF THE NASAL SEPTUM (PARTLY SCHEMATIC).

It can usually be ascertained, that a short time previously the child has had a fall, and bled from the nose. The wounded area is not very painful, even if it be palpated. The doctor, on raising the tip of the nose, sees a bilateral (the abscess is usually present on both sides, a fact which is of importance in making a differential diagnosis), semi-globular swelling on the anterior part of the septum, which is covered either by normal or hyperæmic mucous membrane (Fig. 2). This swelling is quite soft, and

shows distinct fluctuation. Anyone who is less experienced will do well to convince himself that the septum is the point of origin of the abscess, by attempting to pass a blunt probe between one of the globular swellings and the corresponding wing of the nose, a manipulation which may be accomplished without difficulty; on the other hand, an attempt to separate the swelling from the septum with a probe will not be successful. The observation of these points suffices to place the diagnosis beyond doubt.

In opening such an abscess it is important to have the child (especially as regards its head and arms) securely held. The tip of the nose is now raised with the thumb of the left hand, and an incision is made in the most dependent part of the abscess on each side; the complete evacuation of the pus is insured by the subsequent application of moderate pressure. Both sides should be incised, because the septal communication is often extremely small, and would not suffice for proper drainage. The bleeding is insignificant. In conclusion, a moist strip of gauze is placed in each nostril, which may be removed and renewed after some hours. Further treatment is usually unnecessary because, when once the abscess has been properly opened and drained, there is very little tendency for pus to re-form. At the same time it is advisable to see the patient on the following day, and if necessary, to open the edges of the wound with a blunt probe. Children are usually too restless to allow of proper drainage.

Another disease which may be diagnosed by simple

elevation of the tip of the nose is **subluxation of the cartilaginous nasal septum** (Fig. 3). Such patients usually consult a doctor either because they are conscious of having a visible deformity of the nasal aperture, or because they suffer from some form of obstruction to nasal respiration.

It is therefore of great importance for the general practitioner to be able to recognize this condition, and to know that it may be easily cured by a slight surgical operation. Even if he is not in a position to do the latter himself, he will nevertheless merit his patient's thanks, if he is able to give him proper information about a condition, which is harmful both from a cosmetic and physiological point of view. This condition is simply due to a lateral displacement and thickening of the lower anterior border of the triangular cartilage of the nasal septum; it is usually of traumatic origin, having been acquired through a fall in earliest childhood.

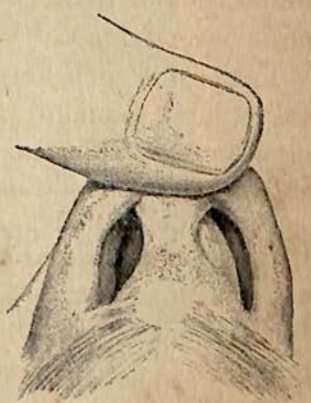


FIG. 3. — ANTERIOR DISLOCATION OF THE SEPTAL CARTILAGE.

It is impossible to replace the edge of the cartilage in its medial position without performing an operation, because the cartilage, owing to its elasticity, always tends to return again to its former faulty position. The operation, which is easily carried out under

cocaine anæsthesia, consists in reflecting the mucous membrane in the form of a flap, and then resecting the prominent part of the cartilage; by this means the symmetry of the nasal aperture is again established.

A description of the other affections which may occur at the aperture of the nose would be out of place in a book of this sort; as such may be mentioned tuberculosis, lupus, syphilis, scleroma, etc.; also rhinophyma, warts, angioma, fibroma, epithelioma, stenosis, deformities, etc.

Epistaxis.

Bleeding from the nose is an occurrence which very often demands the interference of the doctor. It is a very easy matter to stop the hæmorrhage in the vast majority of cases, provided only that the proper measures are adopted. In treating this affection it is most important to have a knowledge of the slight changes in the nose which are responsible for its occurrence, but it is nevertheless almost incredible how little these changes are known or appreciated.

In the great majority of cases the bleeding-spot is situated at the anterior inferior part of the cartilaginous nasal septum, and can be seen in a fairly good light on elevating the tip of the nose even without the use of a mirror. In this position may be found either a slight superficial excoriation of the mucous membrane, or a number of small distended veins. Chiari states that these small erosions represent the source of the bleeding in 85 per cent. of all cases of epistaxis; other authors—and I myself am in agreement with the latter—put this number at 90 to 95 per cent. of the cases.

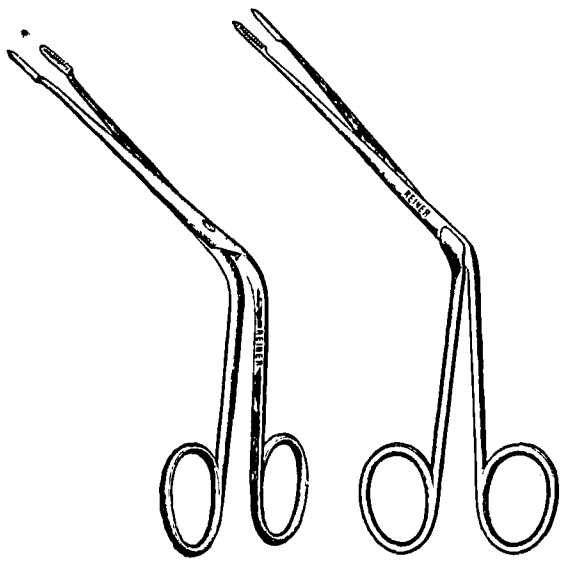
It is therefore quite unnecessary for the doctor to waste any length of time in looking for these changes: he has simply to find out from which side of the nose the blood is coming. This fact, though usually very easy to ascertain, may occasionally be rendered difficult by the appearance of blood from both sides of the nose; in such cases, though the lesion is unilateral, the blood enters the opposite side by flowing over the soft palate behind. The patient should be directed to sit upright with his chin depressed, so that the floor of the nose is inclined slightly forward. He is then directed to alternately blow out the contents of each side of his nose, after which the blood is wiped away from the nasal aperture and the surrounding parts. No difficulty will now be experienced in determining from which side of the nose the blood is flowing.

This position of the head has got the second advantage that it prevents the movements of hawking, retching, and swallowing, which would otherwise be caused by the blood flowing backwards. It is often due to these movements alone, that the bleeding does not cease, or even, having ceased, starts afresh.

As a result of these considerations, it will be seen how essential it is, that the patient does not assume the horizontal position so frequently adopted and recommended in these cases. The patient should in all cases **sit upright**, with his head bent slightly forward, and allow the blood to flow quietly away. This is the first and most important rule.

The hæmorrhage may, if necessary, be stopped by plugging the anterior part of the nose with sterile

cotton-wool or antiseptic gauze. The plug should not be thicker than the little finger, as it is desirable that it should not only fill the vestibule, but also penetrate slightly into the nose proper, the entrance to which rapidly narrows. If the doctor is skilled in the treatment of nasal diseases, the gauze plug may be inserted



a *b*

FIG. 4.—NASAL FORCEPS.
a, Bent on the flat; *b*, bent towards the edge.

through the speculum by means of a nasal forceps (Fig. 4). This may be done by direct vision, the plug being inserted as far as the entrance to the bony part of the nose, between the septum and the inferior turbinal. An attempt should never be made to insert the plug deeper than this; such an attempt is only

liable to cause further injury to the mucous membrane, and, having regard to the position of the bleeding focus, is quite unnecessary. The plug should not be removed, even though completely soaked with blood, unless the hæmorrhage shows no tendency to diminish after some minutes, in which case it may be replaced by a fresh plug. The hæmorrhage may be controlled in almost all cases by adopting the above measures. The following points should also receive attention:

Any tight articles of clothing about the neck should be removed, and the patient encouraged to keep quiet and free from anxiety. If he does not sit upright, he should at least lie with his head well raised. This precautionis taken, as already mentioned, to prevent the blood from reaching the pharynx, and at the same time to favour a free return of the blood from the head and neck; for the latter reason the patient should also breathe deeply and quietly. Cold compresses may be applied to the head, but the rest of the body should be kept warm; speaking or any other movement should be avoided.

The patient does not at first require any nourishment. When this is necessary, iced drinks are most to be recommended. Alcoholic drinks, coffee, strong tea, warm drinks, etc., should, for obvious reasons, be avoided.

It is useless to inject fluids of any sort into the nose; these simply cause the patient to swallow or retch, and they always remove any blood-clot which may have already formed. Having regard to the possibility of some of the fluid entering the Eustachian tube,

such measures must even be considered dangerous. For the same reasons a warning must be given against the popular practice of 'sniffing up' cold water.

When the above methods are employed, it is quite unnecessary to use hæmostatics or any form of medicated dressing. All these, though in some degree effective in stopping the bleeding, injure the nasal mucous membrane, and may lead to a subsequent suppurative inflammation. Perchloride of iron, which is commonly employed for this purpose, should be especially avoided, as it causes subsequent tissue necrosis, and has even been responsible for the production of pyæmia.

In urgent cases plugs soaked with hydrogen peroxide may be inserted. Its effect, though at first pronounced, is only temporary.

If the patient is bothered by an attack of sneezing, he may best counteract it by pressing his thumb in an upward direction on the hard palate, just behind the incisor teeth. For this purpose the Americans press the forefinger backwards in the angle formed by the columna nasi and the upper lip. Apparently in each of these cases the sneezing reflex is diverted, owing to the stronger irritation produced at the point of pressure. If the attack of sneezing should continue, morphia (gr. $\frac{1}{4}$) may be given.

To plug the nose from the naso-pharynx (as taught by Bellocq) must be considered a great mistake, and is only excusable in one who is not aware of the actual origin of the hæmorrhage. In the first place, it is hardly ever necessary, because an anterior plug, if

properly applied, is effective in almost every case. In the second place, it is powerless to influence the bleeding focus, which, as already mentioned, is almost always situated on the anterior part of the septum. In the third place, such a plug is not alone extremely troublesome, but even injurious to the patient.

Irregularities in the shape of the interior of the nose must be considered rather the rule than the exception; it is therefore quite possible even for a skilled practitioner to cause considerable injury when passing a Bellocq's cannula. For this reason a rubber cannula is to be preferred, though efforts to introduce it are not always successful.

The difficulties attending the use of a Bellocq's plug are greatly increased if the plug is not of correct dimensions. If it is too small, it is drawn into the nose, a fact which not alone causes the patient great pain, but renders its subsequent removal through the pharynx and mouth extremely difficult. If it is too large, it causes complete obstruction to nasal respiration, and exerts pressure on the orifice of the Eustachian tube. Such pressure causes stagnation of the tubal secretion, and may even result in middle-ear suppuration.

It is only justifiable for the general practitioner to adopt this method of plugging the nose, if the bleeding focus is situated in the naso-pharynx, a condition which is hardly ever met with, except after operations in this region. In such a case Bellocq's plug is very effective in stopping the hæmorrhage, because the pressure is applied exactly to the bleeding area. The

rhinologist who too often employs Bellocq's method of plugging, shows in doing so defective powers of observation, because, if the bleeding comes from the nasal cavity, it must be possible for him to control it by the harmless and much less troublesome anterior plug.

As regards the after-treatment of epistaxis, it is of primary importance to insure that all due precautions are taken to prevent a return of the hæmorrhage. The removal of the plug should in severe cases be postponed as long as possible (one to two days), and must be always very carefully performed. An attempt should not be made to soften the plug with warm water, because in the first place it is already saturated with nasal mucus, and in the second it is possible for the warm water to loosen the clot and restart the hæmorrhage. If the plug is drawn out very slowly, there is in most cases no recurrence of the hæmorrhage; even if there is, it is usually very slight, and stops in a few seconds. Any blood crusts present should not be removed, and the patient must be warned not to disturb them with his finger. He should further be told to act cautiously when blowing his nose, and instructed as to the proper treatment to adopt should the hæmorrhage recur.

Since repeated attacks of epistaxis may be a symptom of some general disease (kidney disease, arteriosclerosis, cirrhosis of the liver, leukæmia, hæmophilia, etc.), it is often necessary to make a thorough examination of the patient. It should, however, be remembered that even in these cases the bleeding focus will always be

found at the spot already indicated on the anterior part of the septum, and not more deeply situated in the interior of the nose.

In order to prevent a frequent recurrence of the bleeding, it is necessary to cauterize the area which is predisposed to hæmorrhage. This slight operation may be painlessly performed with the galvano-cautery or chromic acid, by previously painting the surface with a solution of cocaine. It is however advisable, to allow the specialist to do this, because, unless performed very gently, it is liable to restart the hæmorrhage. Cauterization with silver nitrate (in substance) or trichloracetic acid is not to be recommended, because the action of these substances is too superficial.

Using reflected light, the area to be cauterized is first gently painted with a 10 per cent. cocaine solution, and is then touched with a globule of chromic acid, which is fused to the end of a blunt probe. Finally, the excess of chromic acid is neutralized by swabbing a piece of cotton-wool soaked in a 2 per cent. solution of sodium bicarbonate over the cauterized area. A small piece of cotton-wool is placed in the nasal vestibule, so as to protect the eschar from mechanical injury. It should be noted that a chromic acid globule only cauterizes effectively when it is of a reddish-brown colour on cooling. Cauterization is not possible until the hæmorrhage has quite ceased, because the newly-formed eschar is always quickly swept away by the blood.

Nasal hæmorrhage of traumatic origin is usually due

to slight laceration of the mucous membrane, and may in almost all cases be controlled by adopting the treatment above described.

In conclusion, it may be mentioned that pathological conditions (new growths, polypi, etc.) in the nose, are very rarely the cause of epistaxis.

A patient who is suffering from post-operative nasal hæmorrhage, should be immediately referred to the rhinologist who has performed the operation; but even in these cases the hæmorrhage may usually be controlled by adopting the same methods as are employed in cases of spontaneous epistaxis. Any plug which has been inserted by the operator, should on no account be removed.

The deeper parts of the nose should only be plugged in the most extreme case of necessity, when all the above methods have been employed in vain, and the bleeding is in all probability coming from the deeper parts of the nose (neoplasms, operation wounds, injuries, etc.); to carry this out a sound knowledge of the treatment of nasal conditions is required. The deep plug is inserted through the nasal speculum by means of a nasal forceps. In doing this however the same methods which are employed in packing other cavities in the body may not be followed; that is to say, when one end of the strip of gauze has been placed in the nose, the plugging may not be continued until the cavity is apparently full of gauze. If this method is adopted, it frequently happens that the distal end of the gauze slips into the patient's pharynx, especially when he assumes a horizontal position, as at night. Such

an occurrence causes the patient to cough and retch, and in this manner may be responsible for a renewal of the hæmorrhage.

To obviate such a result, the following method should be adopted: A strip of hemmed gauze (iodoform gauze is best suited for this purpose), having been folded together, is grasped at one end with a nasal forceps (Fig. 5), and then introduced as far as possible

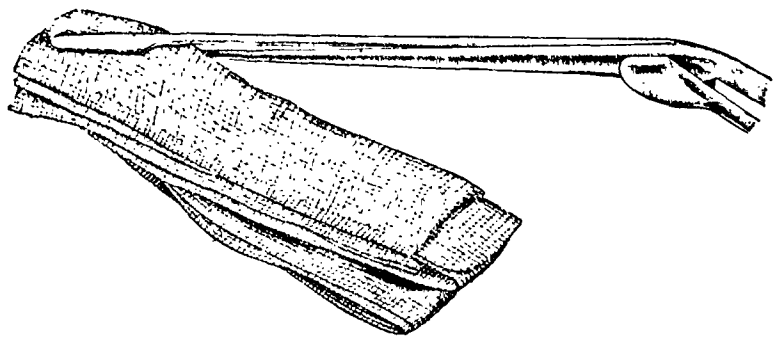


FIG. 5.—ANTERIOR NASAL PLUG.

along the floor of the nose, all undue force being avoided. All other more or less complicated methods of plugging the nose are fraught with difficulties for anyone who is inexperienced in this sort of work.

Foreign Bodies in the Nose.

The general practitioner is often called upon to remove a foreign body from the nose, a proceeding which is unattended by any special difficulty if certain rules are observed. This condition is almost always met with in young children. The foreign body is in-

serted either in play, or as has been asserted by some authorities (Hanszel, Reinhard, and others), in order to counteract the continual irritation which is caused by adenoids or some intranasal trouble. Amongst the objects commonly inserted may be mentioned buttons of all sorts, glass beads, beans, and fruit-stones.

The diagnosis of this condition is usually very simple, if any history is to be obtained; but even if the latter is absent, the case may be diagnosed without any difficulty by attention to the following points: The fact that a child is suffering from a unilateral nasal affection should at once excite the suspicion that a foreign body is present in the nose. Chiari records a case in which a foreign body was found in each nasal cavity; such an occurrence is, however, extremely rare. One nasal aperture is reddened, swollen, and covered with crusts. On being questioned, the mother admits that the discharge is unilateral, and that the side from which it comes, is continually obstructed. This discharge may consist either of pure mucus, muco-pus, or mucus tinged with blood.

On gently elevating the tip of the child's nose, it will be noticed that one side presents a perfectly normal appearance, while the other is swollen, and shows an excess of secretion. On directing the child to blow out each side of the nose separately, it will be found that on the obstructed side the secretion either remains immovable, or else is slightly protruded in the form of large bubbles. Under favourable circumstances the foreign body may already be visible, appearing dark

through the mucous secretion. In other cases it may be rendered visible by wiping away the secretion with a piece of cotton-wool. Since, however, mistakes are possible, it is advisable to touch the supposed body with an ordinary probe, by which means its real nature will be placed beyond doubt.

When the doctor has diagnosed the presence of a foreign body, its removal is usually an easy matter, because it is commonly situated quite anteriorly between the septum and the inferior turbinal. In doing this the following facts should be borne in mind:

It should not be attempted to drive the foreign body forwards by forcing either air (politzerization) or water through the healthy side. The pressure necessary to do this is so great, that there is grave danger of forcing fluid or nasal secretion into the Eustachian tube, and so setting up an acute middle-ear inflammation. That treatment therefore which is of primary importance in removing a foreign body from the ear is a great mistake if employed under similar circumstances in the nose.

Further, when the foreign body is oval in shape, its removal should not be attempted with a dressing-forceps or any similar instrument. Such an attempt will not only fail, but the branches of the forceps on closure, will tend to shove the foreign body still further into the nose. One glance at the accompanying figure (Fig. 6) will render this quite evident.

It is only permissible to use forceps, when the foreign body is of a flat or discoid shape, and stands perpendicular in the nasal passage; under such circumstances

it may be grasped from both sides and drawn out. The same of course also applies to swollen lentils, little pieces of cotton-wool, and similar articles. In removing an oval foreign body, it is best to employ a thick, malleable metal probe, one end of which is slightly bent. This end is inserted above the foreign body, so that its concavity is looking backwards. The end of the instrument in the doctor's hand should now be elevated, so that the bent end comes to lie behind

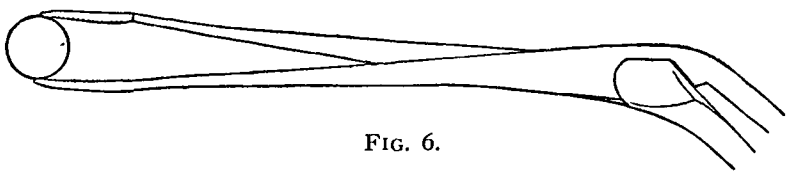


FIG. 6.

the foreign body. The latter may now be easily levered forward (Fig. 7).

In many cases the foreign body may be removed in this manner, to the great satisfaction of the parents. It is only necessary that the child be well held. If the examination has not been rough, the child will offer no resistance to the removal of the body, as the whole manipulation only lasts a few moments. It will, however, be difficult to control the child, if it has been already subject to a painful examination, or unsuccessful attempts at extraction.

The extraction of a foreign body will be easier if the entrance to the nose has previously been painted with a 10 to 20 per cent. solution of cocaine. Besides rendering the parts insensitive, this causes a contraction of the swollen nasal mucous membrane. If the first attempt should be unsuccessful, or the foreign body is

very large, or lies deeply in the nasal passage (in one word, if it is both difficult to see and to get at), it is better not to trouble the child by making any further

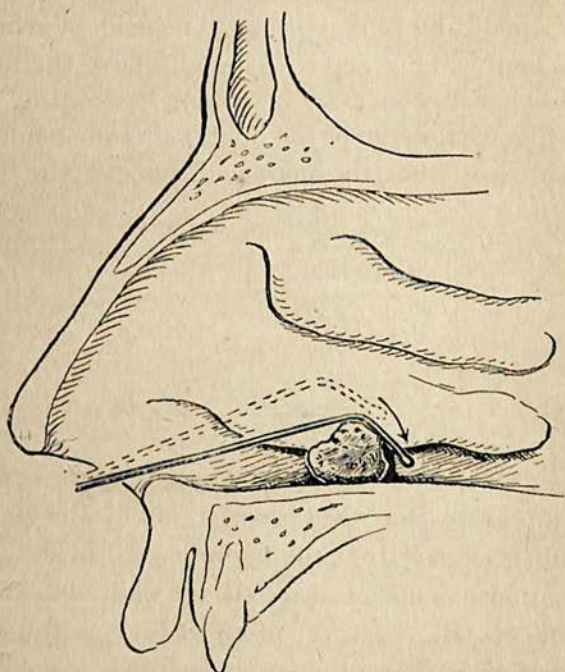


FIG. 7.—REMOVAL OF A FOREIGN BODY FROM THE INFERIOR MEATUS OF THE NOSE. (After Bruck.)

efforts at extraction. Such attempts, besides causing unnecessary pain, considerably increase the difficulties of the rhinologist, to whom the case must eventually come. The successful extraction of the foreign body makes itself immediately evident by the relieved appearance of the patient, and the fact that the nasal

passage has again become patent. If the extraction has been performed without injury to the parts, the secretion dries up, and assumes its normal consistency within the space of a few hours, and the swelling and excoriation disappear almost as quickly. Any after-treatment is usually quite unnecessary.

Collapse of the Alæ Nasi.

In this condition the alæ nasi are forced inwards by the external air-pressure during inspiration. It may also be diagnosed without the use of a speculum. This perverse movement, which increases with the depth and the strength of the inspiration, is due on the one hand to weakness of the alar muscles, and on the other to a delicate consistence of the alar cartilages. Collapse of the alæ nasi is sometimes directly due to narrowness of the nasal passages. In such cases the patients suffer from a deficient supply of air, because the stronger the efforts at respiration, the more the alæ nasi tend to approach the nasal septum. The wire supports of Feldbausch have proved themselves the most reliable of all the remedies which have been recommended up to the present, to improve this condition (Fig. 8). Their only disadvantage is that the metal connection between each side of the support is visible where it passes across the columna nasi from one vestibule to the other, a fact which some patients find disagreeable. Pressure necrosis may also take place at this part if

FIG. 8. — FELDBAUSCH'S NASAL SUPPORTS. (Actual size).

the instrument is incorrectly used. This support is much more useful than the olive- and tube-shaped contrivances (after Schmidthuisen, Jankau, and others), one of which is worn in each side of the nose to serve a similar purpose. Menzel has suggested the employment of Gersuny's method of subcutaneous paraffin injection for the purpose of stiffening the alæ nasi. This method of treatment, if skilfully performed, is worthy of recommendation, because it obviates the necessity of wearing any sort of support.

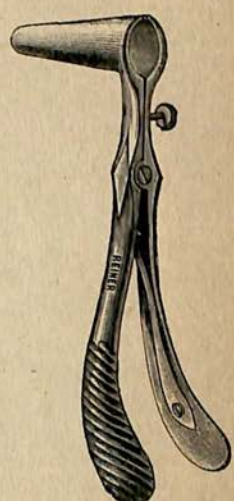


FIG. 9.— CHIARI'S NASAL SPECULUM.

II. The Employment of the Nasal Speculum in the Examination and Treatment of Nasal Diseases.

We come now to the second form of anterior rhinoscopic examination, to practise which we require an instrument called a 'nasal speculum,' though it would be more aptly named if called a 'dilatator.' It must be taken for granted that the doctor who employs this method of examination is also in some degree skilled in the use of a forehead reflector, because the amount of daylight which is directly admitted by the speculum, does not produce sufficient illumination.

Of the numerous models of specula which exist, Chiari's is most to be recommended, especially for

beginners (Fig. 9). The method of using it is so very simple, that it seems superfluous to describe it at any length. A few remarks on this subject will not, however, be out of place here.

In the first place, the speculum must be properly held. In doing this, its two branches should be completely encircled by the hand, the dorsal surface of

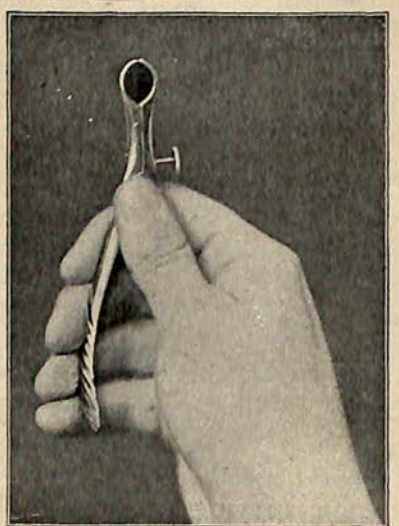


FIG. 10.—CORRECT METHOD OF HOLDING THE NASAL SPECULUM.
The dorsal surface of the fingers and hand is turned towards the patient.

which is looking towards the patient (Fig. 10). The speculum should not be merely held by the fingers, nor should the back of the hand be turned towards the examiner (Figs. 11 and 12).

When performing an anterior rhinoscopy with the speculum, beginners are very apt to insert the wings too far, owing to their desire to see as deeply as

possible into the nose. When under such circumstances the speculum is opened, the wings press against the bony framework of the nasal aperture (apertura piriformis), as a result of which the width to which the speculum may be opened is very much diminished.

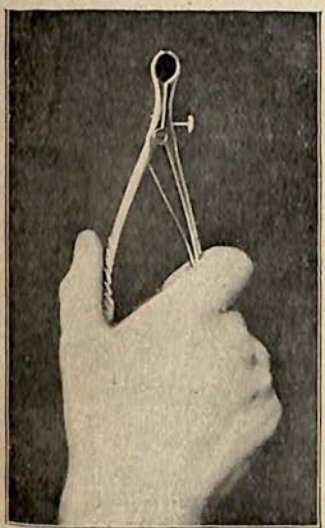


FIG. 11.—WRONG METHOD OF HOLDING THE NASAL SPECULUM.
The back of the hand is turned towards the examiner, and the speculum is only held by two fingers.

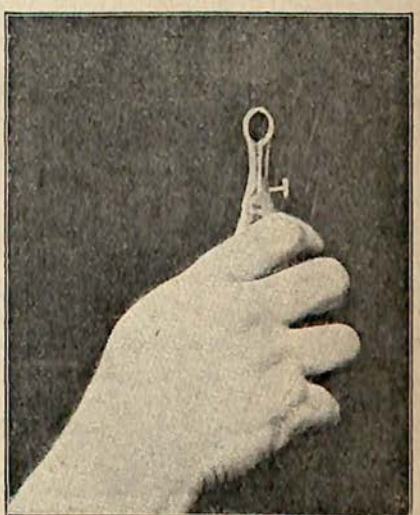


FIG. 12.—WRONG METHOD OF HOLDING THE NASAL SPECULUM.
The back of the hand is turned towards the examiner.

The patient is also caused unnecessary pain, and the very vulnerable mucous membrane of the septum may be injured, in which case hæmorrhage will hinder the inspection of the deeper parts. If, however, the speculum is not inserted beyond the vestibule, the nasal aperture may be widely dilated without causing the patient any pain. When the speculum is in this

position, its lumen can be turned in different directions upwards or downwards, to the right or to the left, and in this manner the whole of the interior of the nose may be systematically inspected.

Another fault which is made in introducing the nasal speculum, and which is due to the fact that the

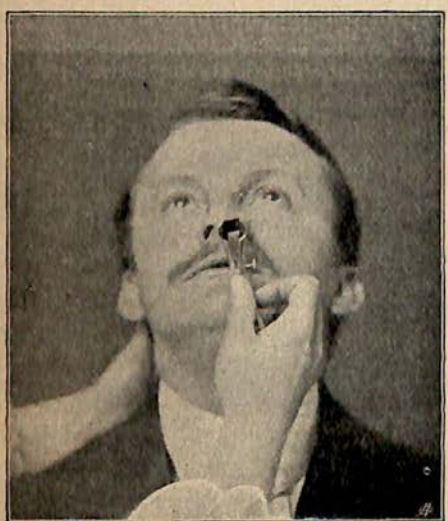


FIG. 13. — WRONG METHOD OF EXAMINING THE NOSE.

FIG. 14.—POSITION OF THE HEAD AND METHOD OF HOLDING THE SPECULUM WHEN EXAMINING THE INFERIOR TURBINAL AND THE INFERIOR NASAL MEATUS.

examiner has not borne the anatomical conditions properly in mind, is that the lumen of the speculum is directed too much towards the upper and front parts of the nose. In such a case, the line of vision will of course be also incorrect, and though the examiner may succeed in viewing the middle turbinal region, he will certainly fail to see those parts lying near the floor of the nose, which parts are, moreover,

of greater interest to the general practitioner. It is only when the speculum is used in systematic manner that it is possible to inspect every part of the interior of the nose.

The speculum should be first introduced in such a manner that the floor of the nose and those parts lying near it are brought into view.

With this aim in view, it is necessary that the patient keep his head well forward, and that the speculum be inserted with its wings lying in the horizontal plane (Fig. 14). By holding the speculum in this manner, the tip of the nose will at the same time be elevated. The lumen of the speculum is first directed towards the side (always keeping the tip of the nose elevated), in which position the lateral wall of the nose may be inspected. It is then directed towards the middle line, by which means the nasal septum is brought into view (Fig. 15), and finally the wings of the speculum are held with their long axis more or less parallel to the back of the nose (the tip of the latter being now allowed to resume its natural position), in which way the middle turbinal region may be inspected; in doing this, the patient's head should be bent backwards (Fig. 16). A person who has had some practice learns, though not without trouble, to overlook those parts lying anteriorly, and to fix his attention on those lying behind. By doing this he is enabled, with the help of the probe, to obtain important information as to the position of the structures seen. During the examination the examiner is strongly recommended to lay his left hand lightly on the

FIG. 15.—POSITION OF THE HEAD AND METHOD OF HOLDING THE NASAL SPECULUM WHEN EXAMINING THE LOWER PORTION OF THE NASAL SEPTUM.

In this picture the right hand appears to be unnaturally bent; this is explained by the fact that the examiner had to move to one side while the photograph was being taken.

FIG. 16.—POSITION OF THE HEAD AND METHOD OF HOLDING THE SPECULUM WHEN EXAMINING THE REGION OF THE MIDDLE TURBINAL.

patient's head, the right hand serving to introduce the nasal speculum ; in this manner he can control with his left hand the movements which the head of the patient should assume from before backwards during the examination. The oral instruction given by the doctor is usually not understood.

In order that the general practitioner may be able to interpret with some degree of accuracy the appear-

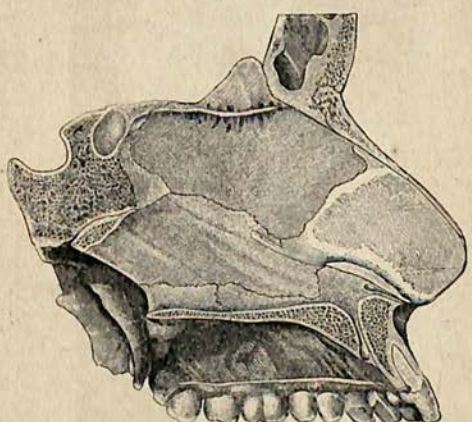


FIG. 17.—THE BONY AND CARTILAGINOUS FRAMEWORK OF THE NASAL SEPTUM. (After Toldt.)

ances which are presented when using a nasal speculum, it is necessary for him to have some knowledge of the normal and pathological anatomy of the nose. Place will therefore be found here to make the following observations :

The interior of the nose is divided into two halves by the nasal septum. The anterior portion of the septum consists of cartilage and the posterior of bone (Fig. 17). The septum very often deviates to one side ; bony and cartilaginous spines and ridges are

also frequently present. These irregularities cause a greater or less amount of obstruction to nasal respiration. The turbinated bodies are attached to the lateral nasal wall; the middle and inferior turbinals

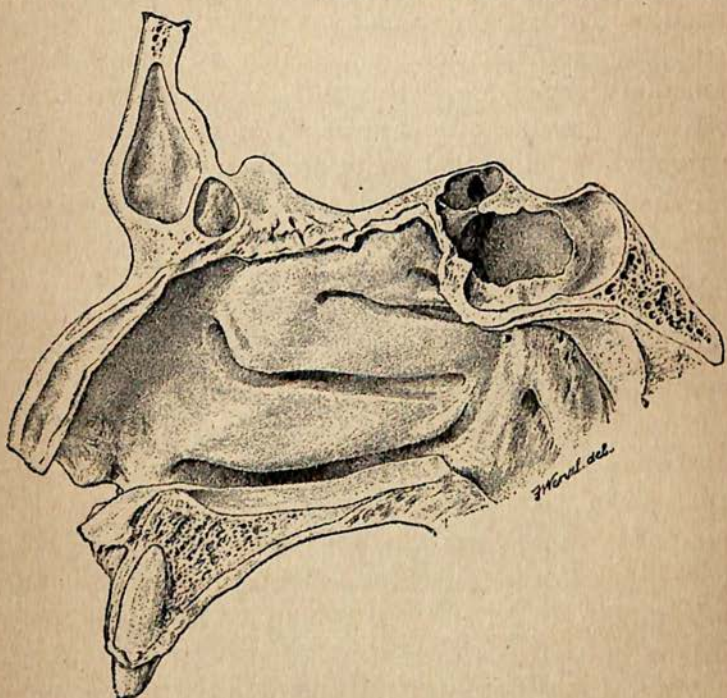


FIG. 18.—LATERAL WALL OF THE NOSE. (After Hochenegg.)

are the only two which need to be considered in the diagnosis and treatment of nasal diseases (Fig. 18).

The ground structure of the turbinals is bone, and not cartilage. The mucous membrane covering them is of a very cavernous nature.

The middle meatus lies between the middle and

inferior turbinals; it is of great importance, owing to the fact that it contains the openings to both the frontal and maxillary sinuses (ostium frontale and ostium maxillare). Posteriorly, the nose opens through the choanæ into the naso-pharynx.

It may perhaps seem laughable to many that elementary principles of this sort should be repeated here. To those who hold such an opinion it may be instructive to know that there are many doctors who, for example, believe that the turbinals are attached to the nasal septum, and that they are of cartilaginous consistence.

Other important details concerning the normal and pathological anatomy of the nose will be mentioned in their appropriate place.

What will be seen by a person of limited experience when using the nasal speculum? The attention of such an individual will be almost entirely arrested by those parts which lie quite anteriorly. He should therefore refrain from forming an opinion as to the normal or pathological condition of the deeper parts of the nose.

When performing anterior rhinoscopy, the general practitioner has to look for two special objects in the anterior part of the nose, which objects should be further investigated when found. These are the nasal septum as far as it is visible from the front, and the anterior end of the inferior turbinal. Unless he has had a lot of experience, it is better for him to limit his consideration to these parts.

He first directs the lumen of the speculum, and with

it his vision, towards the septum. In doing this, he must manipulate the speculum very gently, otherwise there is a danger of wounding the delicate mucous membrane at the anterior part of the septum.

The condition of the mucous membrane should now be considered, especially if the case is one of epistaxis. He will notice in such cases the changes already described, and which may sometimes be seen without using a speculum.

Beginners are very apt to make mistakes when examining the nasal septum; deviations and spines of this structure are, for instance, commonly considered to be a part of the inferior turbinal. Such mistakes are due to an insufficient acquaintance with the anatomy of the parts, and may be avoided by remembering that the nasal septum runs backwards without interruption from the columna nasi in front.

It should next be determined whether the septum runs straight backwards, or whether it deviates to one side; in the latter case there is a convexity on one side and a corresponding concavity on the other. The presence or absence of any spines or ridges on the septum should also be noted (crista, spina septi); these usually spring from the convex side of the septum, near the floor of the nose. The red globular mass which is seen to spring from the lateral nasal wall, and which appears to be rolled upon itself, is the anterior end of the inferior turbinal. When examining this structure the speculum should be held with its lumen parallel to the floor of the nose, in the method already described. To a non-observance of this rule must be

ascribed the frequency with which this structure is missed, even though special efforts are made to see it.

The following deductions can be drawn from this examination: If the anterior end of the inferior turbinal is voluminous, easily compressible on probing, and slightly in contact with the nasal septum, the case is very probably one of **hypertrophic rhinitis.** This diagnosis may not however be established with certainty by the beginner, because, in the first place, he is often led to overestimate the volume of the anterior end of the inferior turbinal, owing to the ease with which it is seen, and in the second place, it is very difficult for him to differentiate between a hypertrophic anterior end, and an anteriorly projecting mucous polypus.

If, on the other hand, the anterior end of the inferior turbinal is small, dark red, and feels resistant to the probe, the condition is probably one of **atrophic rhinitis**; in such a case it is common to find crusts of yellowish-green secretion in the nose.

The examiner may finally suspect the existence of nasal polypi, if soft pale growths are seen projecting forward between the septum and the lateral nasal wall. It may here be mentioned that nasal polypi almost invariably grow from the region of the middle turbinal.

The general practitioner may consider he has done all that could be expected of him, if he has properly recognized the conditions just described. He is now in a position to inform the patient with some degree of accuracy as to the cause of his complaint, a circumstance which is of great importance to the latter,

especially, if he is not within consulting distance of a rhinologist. He will, however, still further merit his patient's thanks, if he is able to give him some idea of the treatment which should be adopted, even though he himself is not in a position to carry this out. The following remarks are added for this purpose:

Obstruction to nasal respiration and stagnation of the nasal secretion are often caused by **septal deviations and ridges.** These conditions, which are also a frequent hindrance to the introduction of the Eustachian catheter, may be permanently and completely cured by the performance of a simple operation.

Hypertrophy of the turbinal mucous membrane may be reduced either by local medical applications or by operative treatment. The local medical treatment consists in painting the diseased mucous membrane with some astringent solution (for example a 2 to 5 per cent. solution of silver nitrate). This method of treatment is only successful in very slight cases, and even then has to be continued for a prolonged period. The operative treatment, which promises a quick and permanent cure, consists in removing a portion of the hypertrophic mucous membrane. The treatment of this condition with the galvano-cautery has fallen off very much of late. The after-treatment in both the above cases is very simple.

Two conditions require to be considered at greater length, because a wrong significance is often attached to them, both by the general public and also by medical practitioners. The conditions alluded to are 'nasal polypi' and 'chronic nasal catarrh.'

Nasal Polypi.

Without attempting to decide whether, in a pathological-anatomical sense, nasal polypi should be considered as benign neoplasms, or as the result of inflammatory hypertrophy of the nasal mucous membrane, they may be simply described as pedunculated outgrowths, consisting of mucous membrane which has undergone hyperplasia and alteration in structure. They contain a delicate groundwork of connective tissue, between the wide meshes of which is a rich mucous secretion.

This definition, though certainly not free from objection, expresses the most important characteristics of these growths. They usually have a thin pedicle, which springs from the lateral surface of the middle turbinal or some part in its immediate neighbourhood. They project from the middle meatus of the nose, that is to say, from that region which contains the orifices of the frontal and maxillary sinuses.

Nasal polypi have become so popular with the general public, that it has ceased to recognize any other form of nasal disease. Nasal obstruction, attacks of sneezing or epistaxis—in short, every form of nasal disease—is attributed to this affection.

This indiscriminate classification of nasal diseases on the part of patients and their friends, is naturally a cause of much confusion, because these diseases differ, not alone in their situation and symptoms, but also (and this is of most importance from the public's point of view) in their prognosis and treatment.

Septal deviations and spines, rhinitis hypertrophica,

and adenoids, are the three conditions which are most commonly found in patients who assert that they are suffering from nasal polypi. This fact must be attributed to the circumstance, that these affections are always accompanied by marked obstruction to nasal respiration, a symptom which, above all others, is responsible for drawing the patient's attention to the fact that he has something the matter with his nose.

It is high time that patients were better able to appreciate the due significance and individuality of these various affections.

It need hardly be stated here, that an examination by a specialist is necessary, in any case in which the presence of nasal polypi be suspected, so that this condition may be properly differentiated from the very numerous affections with which it is apt to be confused.

It should always be remembered that nasal polypi are of relatively infrequent occurrence, and that obstruction to nasal respiration is due in far the greater number of cases to hyperplasia of the turbinal mucous membrane, or in children to the presence of adenoid vegetations.

Nasal polypi should be carefully and systematically removed with a cold wire snare. The old method of crudely extracting them with a forceps is no longer employed. When the polypi are numerous, which is most often the case, their removal cannot be completed in one sitting. The operation is not very painful, even if cocaine be dispensed with. This is proved, amongst other things, by the fact that the patient

usually displays more patience than the doctor, at the length of the individual sittings.

It is also important to know that nasal polypi tend to recur. Months, or even years, may however elapse, between the individual periods at which they become noticeable. Hajek gives the following reasons for the almost invariable recurrence of nasal polypi after removal: (1) Incomplete removal; (2) deep inflammatory processes extending right into the bone; (3) failure to notice that one of the sinuses is diseased; (4) polypoid degeneration of the mucous membrane lining one or more of the sinuses.

The following brief remarks are added in order to explain the difference between the treatment of polypi and that of hyperplasia of the turbinal mucous membrane. While polypi can only be cured by operation, the thickened mucous membrane may often be favourably influenced by local medical applications. As mentioned above, nasal polypi often require many sittings for their complete removal, whilst the hypertrophic turbinal mucous membrane may always be efficiently removed at one sitting, the operation being practically painless and bloodless if cocaine and adrenaline are used.

It is usually unnecessary to plug the nose after the removal of polypi, a fact which greatly conduces to the comfort of the patient. It is however advisable to take this precaution, after removing a large portion of hypertrophied mucous membrane. This is often the only trouble which the patient experiences in such cases. The nose should remain plugged for

from one to four days, according to the extent of the operation. The latter may be performed either with the scissors, a knife, or a snare, as preferred by the operator. An hypertrophy of the turbinal mucous membrane hardly ever tends to recur, if its removal has been properly performed.

So-called 'Chronic Nasal Catarrh.'

A strong protest must here be made against the common misuse of such expressions as 'chronic nasal catarrh,' 'chronic dry catarrh,' and 'chronic cold in the head.' These expressions have become very popular, not alone with the general public, but also with many medical practitioners. To the former they serve as a means of self-pacification and delusion; to the latter they supply a diagnosis which may be used to console and appease a patient, who has proper cause for grumbling. It should be remarked at once, that rhinologists do not recognize any such condition as chronic nasal catarrh. The diseased condition which was implied by this general title, at a period when our knowledge of rhinology was still very deficient, has now ceased to exist, and has resolved itself into a symptom-complex of various different diseased conditions in the nose.

The chief symptom which induces the patient to call his disease a chronic catarrh, is the feeling of nasal obstruction. The patient either suffers from a continual inability to breathe through his nose, and is then troubled with the resulting conditions of head-

ache, feeling of pressure, difficulty in getting breath, anosmia, etc., or the obstruction is only temporary, coming on especially if the patient be exposed to a sudden change of temperature, as for example, when a warm room is suddenly entered; it may also come on after meals, or when the patient lies in bed, that side which is undermost becoming obstructed. Finally, the obstruction may occur periodically, as the patient himself says, 'with every little cold,' or in the summer-time as hay-fever, etc.

When an alternating amount of nasal obstruction is complained of, the doctor has to rely upon the assertions of the patient. The amount of obstruction present at the time of examination may be determined, by alternately closing each half of the nose, and then estimating on the back of the hand or fingers the amount of air which issues through the other nasal aperture. Another method of roughly estimating the quantity of expired air, is to get the patient to breathe through the nose, upon a glass or polished metal plate.

So-called chronic catarrh may be distinguished from acute catarrh, by the fact that in the former the secretion is very slight or even absent. The patients are usually gratified at the appearance of secretion, because they have learned by experience that its presence lightens their trouble. Less commonly cases are met with, in which, though the secretion is abundant, the patients affirm they have a chronic catarrh; such patients will usually be found to suffer from frequent exacerbations of an acute catarrh, or if they are children, they have probably got adenoid vegetations, as the latter very often give rise to excessive mucous secretion.

It does not fall within the scope of this work to give a more detailed account of the pathological conditions which produce the symptom-complex known as chronic nasal catarrh. A reference shall only be made here to those conditions, the existence of which is apt to be overlooked when diagnosing the cause of the obstruction. As already frequently remarked, one or both sides of the nose may be obstructed by deviation or thickening of the nasal septum. Further, a diffuse or localized hyperplasia of the turbinal mucous membrane is also a frequent cause of nasal obstruction. This membrane, as is well known, represents a cavernous structure, which reacts to thermal, mechanical, or chemical stimulation, by shrinking or increasing in volume as the case may be; when the cavernous body shrinks, the nasal passage is free, and offers no resistance to the current of air; when, on the other hand, the volume of this structure is increased, the nasal passage is more or less obstructed.

An attempt will naturally not be made here, to explain the causes (diseases of the accessory sinuses, etc.) of this hypertrophy of the mucous membrane. It is the rhinologist's work to discover and to remove these causes.

Such patients may be in many ways relieved of their troublesome symptoms: sometimes it is by a simple cauterization, or the removal of a piece of hyperplastic mucous membrane, and at others by the appropriate treatment of one of the accessory sinuses, etc. Patients often willingly consent to the performance of much more serious operations than those just

mentioned, as soon as they become aware of the true significance of their complaint.

Nasal polypi are another frequent cause of nasal obstruction. They have already been duly considered.

The cause of 'chronic nasal catarrh' is seldom to be found in the naso-pharynx in adults, though this is most frequently the case in children, owing to the presence of adenoids; the parents in such cases underestimate the child's troubles, which they attribute to the resulting 'chronic nasal catarrh.' In this way the condition remains untreated, and irreparable damage to the child ensues. Adenoids are discussed elsewhere.

But the number of causative factors in the production of 'chronic nasal catarrh' is not nearly exhausted by the conditions mentioned, which indeed, are only those which are responsible in the greater proportion of cases.

Nasal respiration can also be hindered by benign and malignant tumours.

It need only be stated for example, that a malignant tumour, besides causing the above symptoms of 'chronic catarrh,' is characterized by the following special symptoms: Swelling can be felt about the nose, due to infiltration of the surrounding bones and soft parts; there may be exophthalmos, or cerebral or nerve-pressure symptoms; a further characteristic is the occurrence of epistaxis, which does not arise from the anterior part of the nasal septum.

Still other causes of nasal obstruction, especially unilateral, are the presence of rhinoliths or foreign bodies in the nose.

Obstruction may also be caused by congenital or acquired, complete or incomplete, atresia of the choanæ.

Finally, we have still a very important group of diseased conditions to add to those which are being daily diagnosed as 'chronic catarrh,' the recognition of which, as will be seen, is of special importance. This group comprises the bone diseases with their accompanying infiltrations, ulcerations, and sequestrations, that occur in scrofulosis, tuberculosis, and syphilis.

Nasal obstruction may be the only subjective symptom present in such cases, to indicate the severe disease which is affecting the bony framework of the nose.

This discomfort is resignedly borne by the patient, who is under the impression that he suffers from a 'chronic nasal catarrh,' and who therefore does not give the matter any further consideration. The resulting delay leads to a further progression of the disease, to extensive destruction of the internal parts of the nose, and to great deformity of its external bony framework, though, if the condition had been diagnosed and treated at the proper time, it would have been possible to protect the patient from these injurious results.

This applies especially to syphilis, the bony framework of the nose being commonly affected by gummatous inflammations. It is seldom that either the patient, or the doctor who has been called upon to treat him, thinks of connecting the former's present trouble with his previous infection, seeing that a long interval may exist between the two, and that the local symptoms of nasal infiltration, are at first usually very slight. The diagnosis of 'chronic nasal catarrh' is adhered to, and so the important time for putting the patient under

general and local treatment is lost, though therapeutic measures are never so markedly successful as in these very cases.

There is, however, another point to be noted about syphilitic affections in the nose. It concerns the importance of combining general with local treatment in these cases.

Many doctors are inclined to entirely dispense with local treatment in cases of syphilis of the upper respiratory passages, because they have correctly observed, that a number of these cases may be quite cured by general treatment alone.

It must, however, be considered a great mistake, to neglect the local treatment in these cases.

It is just as glaring as if, when treating a case of general syphilis, efflorescences, ulcerations, or bony necrosis, which happened to be present in other accessible parts of the body, were left in an untreated condition.

The disturbances which are caused in the pharynx and throat during the stage of irruption, or later as a result of gummatous inflammation, always require local as well as general treatment. If this fundamental rule were only adopted, patients would not suffer for months from troublesome dysphagia, caused by luxuriantly growing patches in the pharynx; they would not suffer from persistent hoarseness or aphonia, due to papules and other inflammatory changes in the larynx; they would not have to endure extensive destructive processes in the nose, pharynx, and larynx, which though they finally

heal, leave behind them large defects, scars, and adhesions, which are often a serious menace to the patient.

If local and general treatment be employed coincidently at the beginning of these affections, they will neither last so long, nor assume the same dimensions. It is of course true that papules sometimes heal up readily on the exhibition of mercury, and that gummatous infiltrations quickly disappear on the exhibition of potassium iodide; but it must be borne in mind that all these conditions heal much quicker, and hardly ever lead to extensive destruction, if, especially in their early stages, a local treatment be also adopted.

The same applies to tubercular lesions, which however shall only be described in dealing with diseases of the larynx, in which organ they occur much more frequently.

Diseases of the Nose, the Recognition and Treatment of which is only possible for one who has had Some Special Technical Training.

There are, of course, a great many nasal diseases, which cannot be accurately diagnosed or treated, by anyone who has not had an extensive clinical training in this branch of surgery. It is, however, important for the general practitioner, to have at least a superficial knowledge of these diseases, so that on the one hand he may himself appreciate their importance, and, on the other, be able to give his patients some information concerning the cause of their trouble.

A few hints will therefore be given, which may help the general practitioner in the diagnosis of these diseases.

By **hydrorrhœa nasalis** is understood that condition, in which a clear fluid trickles from the nose. This can be due to two causes.

In the first place, a communication may exist between the cranial and nasal cavities, in which case cerebro-spinal fluid sometimes escapes from the nose. The only way to establish the diagnosis, if this condition be suspected, is to make a chemical examination of the fluid. The communication may be of congenital or traumatic origin.

A second factor in the production of hydrorrhœa (if we overlook the profuse watery secretion present in acute inflammatory conditions of the mucous membrane) is due to vasomotor disturbances (rhinitis vasomotoria). This complaint is usually met with in women who suffer from some neurasthenic affection; it comes on in attacks, and is often very resistant to treatment, which should be both general and local.

Ozæna is accompanied by a peculiar atrophic condition of the mucous membrane and turbinate bones, and by the formation of a tenacious, mucous, or muco-purulent secretion, which possesses the property of drying into crusts. It is these crusts which cause the unpleasant smell which is characteristic of this disease, and which is usually less troublesome to the patient than those about him. The disease seldom makes its appearance before puberty, and usually lasts well into middle life.

Up to this the etiology of the disease has not been placed upon a satisfactory basis.

There is also, unfortunately, up to the present, no satisfactory treatment for this condition.

The treatment adopted, resolves itself into making an endeavour to prevent the collection of stinking crusts, by the frequent use of nasal lotions. Besides this, painting the mucous membrane daily with the following paint may be recommended:

℞ Iodini ... ... gr. vi.
Pot. iod.... ... ... gr. xx.
Glycerini ... ... ad ℥i.
Sig.: To be used as a paint.

The nasal lotion should be comfortably warm; as such may be used either a 6 per cent. saline solution or two teaspoonfuls of the following powder dissolved in a pint of water:

℞ Sodii bicarbonatis } ... āā ℥i.
Sodii biboratis }
Sodii chloridi ... ... ℥ii.

In using the lotion, it is not permissible for the patient to employ either a syringe or a douche, as even a slight pressure is sufficient to force the solution into the Eustachian orifice. The fluid should be simply allowed to flow gently into the nose from a little boat-shaped nasal irrigator (Fig. 19) or a pear-shaped glass vessel (Fig. 20). Owing to the irritation caused by the running fluid, the soft palate contracts and closes the communication between the naso-pharynx and the mouth cavity, and so the fluid is conducted into the opposite side of the nose. The head of the patient

should therefore be bent a little forwards, and not backwards. While the lotion is flowing through the nose the patient should continue to breathe quietly through the mouth, and not make any attempt at swallowing. After the solution has quite ceased to flow, the patient should blow out each side of the nose separately.

In some cases of ozæna the patient's condition may

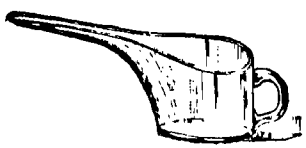


FIG. 19.—NASAL IRRIGATOR.

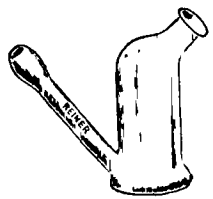


FIG. 20.—VESSEL FOR DOUCHING THE NOSE.

be improved by the injection of paraffin under certain parts of the mucous membrane.

It is of great importance to know that under certain circumstances — especially in adults—a chronic suppurative inflammation in one of the accessory sinuses, may simulate the picture of an ozæna. Prominent in this respect are affections of the ethmoidal cells and the sphenoidal sinus.

The experienced rhinologist often finds it difficult in such cases, to determine the source of the pus.

So much importance, as far as the nose itself is concerned, is not attached to-day as it was formerly to the so-called **reflex nasal neuroses** (headache, neuralgia, asthma, epileptic attacks, etc.).

The modern point of view is shortly as follows: If pathological conditions are found in the nose, which

may in any way be responsible for the patient's suffering, they should as far as possible be removed. It is necessary, however, to bear in mind, that the nervous complaint may continue just as troublesome after, as it had been before the nasal treatment.

For this reason it is only wise to adopt operative treatment, in those cases in which the nasal changes are themselves of a disturbing character, that is to say, in those cases which are accompanied by marked obstruction to nasal respiration, due to any of the causes already mentioned.

In cases in which the obstruction is due to some anatomical abnormality, the removal of the latter will be attended by a good measure of success, at least as regards the alleviation of the patient's suffering.

Doctors are still divided, as to what influence can be exerted by nasal treatment over menstrual disorders, though there is no doubt that in some cases a temporary or permanent relief may be given to patients suffering from dysmenorrhœa, by cauterizing the so-called genital spots (the tuberculum septi and the anterior end of the inferior turbinal) in the nose. It is, however, never possible, by mere examination of the nose, to predict this success, though the treatment is so insignificant that it is often well worthy of a trial.

Anomalies of Smell.—Anosmia (deficiency of the power to smell) may in the first place be caused by the air being mechanically prevented (through hyperplasia of the mucous membrane, polypi, etc.) from entering the sensitive area in the rima olfactoria (anosmia respiratoria); or it may be due to temporary or per-

manent damage to the end organs of the olfactory nerve (cocaine, nicotine, influenza, atrophic processes, etc.) in the olfactory region (anosmia essentialis); or finally, the condition may be due to some central disturbance (trauma, tumours, meningitis, etc.) which implicates the olfactory bulb (anosmia centralis).

Hyperosmia and parosmia are almost always due to some neurasthenic or hysterical condition, though they are sometimes caused by a chronic suppurative inflammation in one of the accessory sinuses.

Hallucinations of smell are common in the insane.

Though **hay-fever** is a general disease, its troublesome symptoms are localized to the upper respiratory passages. Since this disease is directly due to the irritation produced by the pollen of certain flowers, the patient only suffers at the time when such flowers (particularly those of grass) are in bloom. It is only possible to alleviate the patient's suffering by adopting such medical or operative treatment as will remove, or at least modify, the most unpleasant of his symptoms: these are the obstruction to nasal respiration caused by the swollen mucous membrane and the excessive secretion. Powders or fluids which contain cocaine and a suprarenal preparation give temporary relief. There are numerous prescriptions of this sort. The following solution may be recommended for the purpose of spraying or painting the swollen parts:

℞ Cocaini mur. ... ... gr. iv.
Solut. adrenalini (1 : 1,000) ... m. xx.
Aq. dest. ... ... ad ℥i.
Sig.: To be used as a nasal spray.

A specific treatment, by means of a specially prepared serum called 'pollantin' (or graminol), has recently been advocated by Dunbar. This treatment is in many cases successful as a prophylactic, if it is employed in a systematic manner. The undurability of the serum, combined with its relatively high price, are, however, serious objections to its general use. The directions for its use are supplied with the preparation.

Nasal diphtheria is either primary, or secondary to extension from the pharynx in a case of pharyngeal diphtheria. In the first case it usually runs a very mild course. The general condition of the patient may appear to be quite normal, even fever may be absent; attention will however be directed to the diseased focus, by the profuse nasal discharge and the intranasal swelling. A diagnosis can also be arrived at by making a bacteriological examination of the secretion or false membrane, in which an abundant supply of diphtheria bacilli may be seen. Nasal diphtheria can only be distinguished from rhinitis fibrinosa—a disease which is clinically quite identical—by making such a bacteriological examination. This light form of nasal diphtheria, may of course be transmitted to other people, and produce in them all the symptoms of a severe faucial diphtheria; due prophylactic measures should therefore be taken in such cases. The treatment consists in the customary injection of antidiphtheritic serum, and in carefully removing the loosened pseudo-membrane; at a later stage the mucous membrane may be brushed with a 2 per cent. solution of silver

nitrate. Syringing must on no account be employed, owing to the great danger of transmitting the infection, or of causing middle-ear disease.

Secondary nasal diphtheria is usually accompanied by manifestations of a much more serious character. Its treatment is similar to that just described, due attention being of course directed to the primary pharyngeal affection.

Scleroma (rhinoscleroma) is described under the head of laryngeal diseases.

The condition commonly known as **red nose** is either due to skin disease (acne rosacea), or to some anomaly of the bloodvessels. In the latter case numerous small vessel ramifications can be seen under the epidermis, or the tip of the nose assumes a diffuse shining red appearance.

It will usually be found that the affection is dependent upon some other disturbing factor (genital troubles in women, digestive disorders, or what is most frequently the case, some internal nasal trouble), in which case an exact investigation should be undertaken in the suspected direction. This condition is often wrongly ascribed to alcoholic excess. The prognosis is on the whole very unfavourable, if the redness does not disappear after the removal of any apparent disturbing factor. Ladies who suffer from this affection should not be allowed to wear a thick, tight-fitting veil in winter. The patient may be recommended to frequently dab the outside of the nose with benzine, or to apply hot and cold compresses in quick succession.

Treatment with the galvanic current or by electrolysis, is not attended with any permanent success.

The question of injury to the nose cannot be very deeply investigated here. The treatment, which belongs partly to the general surgeon and partly to the rhinologist, must depend upon the nature of the injury (tears, bruises, gunshot wounds, fractures, etc.) in any particular case.

It shall only be shortly stated that blunt injuries, such as result from a fall or a severe blow on the nose, usually cause a fracture-dislocation of the triangular cartilage of the nasal septum.

Another common result of blunt injury is a fracture of the two nasal bones. In such cases the line of fracture runs horizontally, the anterior portions of the fractured bones being dislocated backwards. This fracture can only be diagnosed by gentle palpation of the injured parts, and if necessary by examination with the Röntgen rays. The hæmorrhage is usually considerable, and greatly increases the difficulty of making a satisfactory examination and diagnosis.

It is a common practice not to pay any further attention to such an injury after the hæmorrhage has been stopped. If this mistake is made, the displaced cartilage and bone will very probably cause nasal obstruction, which subsequent operative measures may be powerless to remove.

Suppurative Inflammation of the Accessory Sinuses.

Suppurative inflammations of the accessory sinuses of the nose (maxillary, frontal, sphenoidal, and ethmoidal sinuses) occupy a prominent position in modern rhinology.

The diagnosis and treatment of such affections is, however, very complicated, and requires much experience and skill on the part of the rhinologist.

Only a few general statements for the guidance of the general practitioner, will therefore be made here.

A distinction should be made between acute and chronic suppurative inflammation. For practical reasons, suppurative inflammation of the maxillary and frontal sinuses will first be considered.

Acute suppuration in these sinuses usually presents the picture of a very severe 'cold in the head,' accompanied by fever and headache.

If now, besides these symptoms, or after they have abated, the patient complains of pain on pressure or palpation over the frontal or maxillary sinuses, unilateral epiphora, headache, or a suppurative discharge from the nose, the doctor can with more or less certainty diagnose an acute suppuration in one of these two sinuses. It is not at all necessary—as is commonly believed—that there should in such cases be a swelling of the cheek or over the frontal sinus. Such conditions are, on the contrary, very rarely met with.

It is difficult for the general practitioner to determine with any certainty whether the frontal or the

maxillary sinus is affected, because if the diagnosis is based upon the localization of the pain, it may lead to very perplexing results. It is quite customary, for example, to have pain over the frontal sinus when there is suppuration of the maxillary sinus, or pain over the whole of the affected side of the face when one of the frontal sinuses is affected.

A diagnostic point of more importance, though it is not always reliable, is to ascertain whether the pain is worse at night and abates as soon as the patient rises in the morning, or whether it is of marked intensity during the day and becomes endurable as soon as the patient assumes the horizontal position at night. The first case points more to the frontal sinus being affected; during the day, when the body is in an upright position, the ostium frontale (which serves to establish a communication with the nose) is at the deepest part of the sinus, by which means the secretion can readily drain into the nose. In the second case the maxillary sinus is probably at fault, because the ostium maxillare is quite close to the roof of the sinus, and therefore the conditions at night are more favourable for drainage. It is however a matter of slight importance for the general practitioner, whether or not he is able to differentiate between acute suppuration of the frontal and the maxillary sinuses, because the treatment to be adopted by him is the same in both cases. In each case he should in the first place make sure, that the pus can discharge freely through its natural opening into the middle meatus, and in the second do something to alleviate the patient's

intense pain. Warmth satisfies all these requirements. The patient should keep to his bed, and apply warm compresses (which are much more comforting than cold) to the affected side of the face; aspirin may be ordered internally.

If the doctor is skilled in the treatment of nasal diseases, he may greatly relieve the patient's condition and hasten the discharge of the pus, by applying some 20 per cent. cocaine solution to which has been added a little adrenalin (1 : 1,000) to the mucous membrane of the middle meatus. As is well known, these drugs cause shrinking of the mucous membrane about the orifices of the sinuses, and thereby insure better drainage from the latter.

Acute inflammation in either of these sinuses, usually subsides completely in the course of a couple of days, if the above treatment be adopted.

An acute inflammation of the frontal or maxillary sinus often develops into a chronic condition. In such cases the disease runs a very latent course, and its exact diagnosis is often a matter of great difficulty; a due regard to the symptoms present, may, however, often enable the general practitioner to form a fairly accurate diagnosis.

The following symptoms should make us very suspicious of a chronic sinus suppuration: Unilateral nasal obstruction and headache; bad smell from the nose, which usually only troubles the patient, and not those in his immediate neighbourhood (in ozæna the opposite is the case); and a unilateral purulent or muco-purulent discharge.

Very often the symptoms produced by suppuration in the maxillary sinus are wrongly ascribed to a peridontitis resulting from dental caries. Such cases may be only cleared up when one tooth after the other has been stopped or extracted. It sometimes even occurs that perfectly sound teeth are sacrificed, before it finally suggests itself to make a nasal examination, and so settle the diagnosis.

Cases of sinus suppuration are met with daily, which have been treated for years as trigeminal neuralgia.

A maxillary or dental cyst is often confused with suppuration of the maxillary sinus.

It is well known to general surgeons that new growths of the upper jaw may simulate an empyema of the maxillary sinus.

A very common belief prevails that chronic empyema is accompanied by redness of the skin or swelling of the soft parts or bones. Quite the contrary is however the case, since these symptoms point rather to the presence of superior maxillary cyst or new growth, or to some other complication, but never to an uncomplicated sinus suppuration.

Besides the above symptoms of chronic sinus suppuration, the specialist has other means at his command, to enable him to confirm his diagnosis and to determine the diseased sinus. As such may be mentioned transillumination by means of the Röntgen rays, or by a special glow-lamp which is placed within the patient's mouth, and washing out the sinus by means of a cannula inserted through its natural orifice. If the

maxillary sinus be suspected, an exploratory puncture will afford useful information; this small, painless operation, which gives a quick and sure result, is carried out as follows:

The sinus is reached by inserting a strong exploratory needle (Fig. 21), through a specially thin portion of the outer bony wall of the inferior meatus. Having made sure that the point of the needle lies free within the sinus, the latter should be washed out with some cleansing lotion. The presence or absence of suppuration is determined, by noting whether the returning fluid is clear or mixed with pus. Whilst the exploratory puncture may be always carried out quickly and

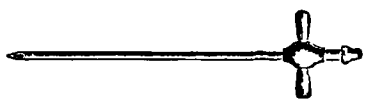


FIG. 21.—TROCAR FOR EXPLORING THE MAXILLARY SINUS. (After Lichtwitz-Fein.)

easily, it is often very difficult to wash out the sinus through the ostium maxillare; it is, indeed, sometimes only possible to do so after a small preliminary operation (removal of the anterior end of the middle turbinal) has been performed. This operation has also usually to be performed before it is possible to wash out the frontal sinus.

From what has been said, it is evident that even a person who has had some experience, will sometimes find it difficult at the first examination of a patient, to determine with any degree of certainty the source of the pus.

In treating chronic suppuration of the frontal and

maxillary sinuses, either conservative or radical methods may be adopted. In the first case the surgeon aims at maintaining a large opening into the sinus, and through this washing it out for a considerable period.

Whilst the natural orifice of the frontal sinus (ostium frontale) can usually be approached, as already mentioned, by performing a slight operation, this latter does not always succeed in opening up the approach to the ostium maxillare. Besides this, the latter opening is so situated that it is very unfavourable for drainage purposes. It is therefore advisable to make an artificial opening into the maxillary sinus in some more suitable position. It may for example be placed in the alveolar process of the upper jaw (Cowper's method); in doing this the gap left by a previously extracted tooth (preferably a molar) should be selected. When no such gap is present, a suitably-placed carious tooth should be extracted, and the sinus then reached through the resulting depression in the alveolus.

The lateral nasal wall, or what is the same thing, the medial wall of the maxillary sinus, may also be used for the formation of such a communication (intranasal methods of Mikulicz-Krause, Rethi, Hirsch, and others).

For various reasons, the method of boring into the maxillary sinus through the canine fossa has been abandoned.

The operations just considered may be carried out under local anæsthesia, and need not be considered very extensive or painful measures. In this manner it is possible to give the patient immediate relief,

and to obtain permanent control over the diseased sinus.

The patient should be directed to wash out his sinus daily, or at intervals of days or weeks, according to the requirements of the case. If the artificial opening has been placed in the inferior meatus it is left permanently open, whilst in the case of an alveolar opening the latter is kept closed by wearing a gold or rubber plug, which is only removed for the purpose of washing out the sinus.

Some cases of chronic empyema may be completely cured by adopting these conservative measures.

A radical operation should however be undertaken if the case is complicated by marked changes in the mucous membrane (formation of granulations or polypi), if the subjective symptoms are severe, or if complications of any other kind are present.

A number of radical operations have been proposed both for the maxillary and the frontal sinus. In each case the principle is the same, and consists in making a large opening into the sinus, through which every part of its interior may be approached. All diseased parts of the mucous membrane should be thoroughly curetted, and a permanent wide communication established between the sinus and the nose.

When performing a radical operation on the maxillary sinus, a flap of mucous membrane from the lateral wall of the nose is turned down into the sinus; this helps to bring about a quicker epithelization of the interior of the cavity.

The final result of this operation is usually very

satisfactory, and it is therefore to be preferred to more complicated methods.

Deformities of the face due to bony depressions and scars only arise after radical operations on the frontal sinus; such results are however of less frequent occurrence since the perfection of Killian's method of operation. The radical operation on the maxillary sinus is performed entirely from the mouth, and is therefore not attended by any subsequent cosmetic blemish.

Though the number of diagnostic points present in cases of acute or chronic suppuration of the maxillary or frontal sinus, is usually sufficient to enable the general practitioner to suspect the existence of such conditions, this is unfortunately not the case in similar affections of the ethmoidal or sphenoidal sinus.

It is hardly ever possible to diagnose acute suppuration in either of these sinuses.

Chronic suppuration in the sphenoidal or ethmoidal sinus may be suspected by the general practitioner, if the patient complains of long-existing nasal obstruction accompanied by headaches, and if he states that he has a suppurative discharge from one or both sides of his nose or from his pharynx. A chronic empyema in one of these sinuses may however be so insidious in its course, that the only indication which may be afforded of its presence is the patient's statement that he has abnormal sensations and collections of mucus in his throat—symptoms, moreover, which usually lead to the diagnosis of pharyngeal catarrh.

If a latent suppuration of the sphenoidal or ethmoidal sinus spreads beyond the limits of the affected sinus, it

soon leads to manifest complications in the orbital or cranial cavity.

The general practitioner is not in a position to himself carry out the treatment of suppuration in the ethmoidal or sphenoidal sinus.

The first duty of the specialist in such cases is to determine the suppurating sinus—a proceeding which under certain circumstances may be very difficult, often requiring several examinations of the patient.

The treatment adopted in these cases consists in establishing a communication between the nose and the affected sinus, and then scraping out its diseased contents.

Concerning the pessimistic ideas which are commonly held about this treatment, it may be stated that a cure in the sense of a complete cessation of the suppuration is seldom obtained, but that in almost all chronic cases the patient's condition may be so much improved that he will be relieved of all troublesome symptoms, except an insignificant suppurative discharge.

Jansen rightly attributes the chronicity of sinus suppuration to the following circumstances: The unyielding nature of the sinus walls; the possibility of neighbouring sinuses being diseased and alternately infecting one another; the unfavourable position of the natural orifices as regards drainage, and especially the extensive pathological changes which accompany the disease.

Influenza plays the chief part in the causation of sinus suppuration; far the greater number of cases may have their origin traced to a time when the

patient was suffering from this disease or one of its resulting affections. Suppurative inflammation in the sinuses may also arise during one of the acute exanthematous affections, especially scarlet fever.

In the case of the maxillary sinus it should also be remembered that the affection may have arisen by infection from the root of a carious tooth. This form of empyema is however of much rarer occurrence, and may usually be quickly cured by removing the carious tooth and draining the suppurative focus.

Deformities.

As regards external deformities of the nose it need only be shortly stated that latterly deformed noses have been greatly improved in appearance or diminished in size by intranasal methods.

Especially fine results have been achieved in this respect by Joseph of Berlin, Gersuny, and Moskovizs of Vienna.

The so-called saddle-nose, which may be either a congenital anomaly, the final result of an injury, or the result of bony sequestration (especially of syphilitic origin), offers a very encouraging field for the method of subcutaneous paraffin injection proposed by Gersuny. After testing the efficacy of almost all the proposed modifications of this method, the technique and the instrument of Mahu, which I have employed for some years, have given me the best results. The instrument is so constructed that with it cold paraffin of a relatively high melting-point can be injected under the skin. This advantage, together with a few others

PLATE I.

A, Before the Paraffin Treatment.

B, After the Paraffin Treatment.

FIG. 1.

A, Before the Paraffin Treatment.

B, After the Paraffin Treatment.

FIG. 2.

PLATE II.

A, Before the Paraffin Treatment.

B, After the Paraffin Treatment.

FIG. 1.

A, Before the Paraffin Treatment.

B, After the Paraffin Treatment.

FIG. 2.

which will not be given here, reduce to a minimum the dangers (thrombosis, emboli, etc.) which may complicate an injection of this sort. The employment of this method, however, demands great experience and care. If the technique of the injection has been carried out correctly, the results of the operation are permanent, and even after a number of years no alteration in shape will be observed. This circumstance is explained by the fact that the paraffin is not encapsuled, but rather invaded in all directions by the surrounding connective tissue, a fact which has been confirmed by various observers. The accompanying photographic plates (Plate I., Figs. 1, 2, and Plate II., Figs. 3, 4) illustrate some of the cases treated by me.

DISEASES OF THE THROAT

As already stated, it is not the purpose of this book to describe in a strictly scientific manner the diseases with which it deals. It aims rather at helping those who are not very familiar with the methods of examination adopted in such a way that, when they are thrown entirely upon their own responsibility, they may be able to form a diagnosis and institute an appropriate treatment, by paying close attention to the most striking symptoms of the case. With this end in view, those symptoms which are common to many of these diseases will be used as rough headings for their classification, and their remaining symptoms for the purpose of establishing a differential diagnosis in any particular case.

Besides this, diseases which though really different, are usually somewhat loosely classified together under a common title, will be better differentiated, an attempt being at the same time made to combat such a misleading method of classification.

A.—Diseases which are accompanied by Pain in the Throat.

The most pronounced symptom of a large number of throat affections is pain in this region.

When a patient complains of pain in the throat, it should be our first endeavour to determine roughly the localization of the pain. We must determine whether the pain is really arising from the interior, or whether it is perhaps localized to the exterior of the throat, as patients frequently mistake the latter condition for the former. Indeed, there are many patients whose attention is only drawn to the external situation of the pain by the questions and examination of the doctor.

I. Diseases in which the Pain in the Throat is due to Some External Affection.

The commonest affections which render the throat painful externally are muscular rheumatism and swollen glands. In the first of these cases the pain is usually not exactly localized; it occurs especially when the head is moved or when the patient swallows, as a result of which the head is often held stiffly, and swallowing is avoided as much as possible. The muscles affected may be determined by palpation. Commonest amongst these are the sterno-cleido-mastoid and the splenius capitis and colli. The prognosis is very favourable. The treatment is anti-rheumatic.

A painful condition of the throat may also be a symptom of weariness of the voice when the latter has been strained for a considerable period by speaking, singing, or shouting; this affection may be frequently observed in teachers and professional singers.

A detailed account will not be given here of the diseased conditions which may affect the lymphatic glands of the throat, as the study of such belongs rather to general surgery and medicine.

One point, however, which is usually rather neglected, may be appropriately mentioned.

Patients are often met with who, though complaining of pain in the throat, present no visible external or internal signs of disease to account for this symptom. Sometimes, however, by making a very careful examination, swollen lymphatic glands may be discovered lying deeply in the neck. By pressing these glands away from the larynx and under the sterno-mastoid, pain is produced; when the patient swallows it also causes pain, apparently by the pressure which the surrounding muscles exert upon the swollen glands. The real cause of the pain in such cases is very commonly overlooked, because it is projected inwards by the patient. It is only when the glands are carefully sought for, and experimentally palpated, that the patient is capable of correctly localizing the situation of his pain.

Hypertrophy of the glands in the neck is a very frequent disease, and one which is often misinterpreted. It is usually secondary to some slight inflammatory disturbance of the tonsils or pharyngeal mucous membrane. Though the primary affection of the mucous membrane may have been slight, and overlooked by the patient, the resulting glandular inflammation may cause him pain. It is of course quite useless to treat the interior of the throat with gargles, etc., in such cases.

If the patient's symptoms are severe enough to make him seek medical advice, he may be recommended to use moist warm compresses, or to gently massage the affected region with some analgesic ointment. There are certain people who regularly suffer from this affection on exposing themselves to the slightest chill, such as sleeping with the window open, or speaking in the face of a wind.

Kretschmann has observed pathological changes of an inflammatory type in the salivary glands of the floor of the mouth in patients who suffer from such symptoms as slight pain, or a feeling of pressure or sticking in the throat. The enlargement and increased sensibility of the glands may be determined by bimanual palpation, and the condition may be relieved by massage.

Under this heading must finally be considered a condition which is described by Boenninghaus as a neuralgia of the laryngeal nerves. The pain in such a case may be caused by pressure applied at two distinct points externally. Before this affection is diagnosed all other causes of pain, both internal and external, must be carefully excluded, for which reason its diagnosis requires much special experience on the part of the examiner.

II. Diseases in which the Pain in the Throat is due to Some Internal Affection.

When a patient complains of pain in the throat, he should first be asked a question, the answer to which will afford most valuable information concerning the

nature of the disease, and give a good idea of its situation even before undertaking any further examination. The patient should be asked whether the pain is most noticeable when he swallows; when he speaks, sings, or shouts; during respiration; or when any of these functions are combined.

In all but the first of these cases it may be concluded that the deeper parts of the throat—especially the larynx—are either partly or entirely affected, for which reason the diseases producing these symptoms will be dealt with in the section dealing with diseases of the larynx.

For the present our attention will be confined to those diseases which are accompanied by **dysphagia** or painful deglutition.

By the patient's statement that it hurts him to swallow, we may already limit the affection to the pharynx. This, however, is a large cavity, and an attempt should accordingly be made to localize the painful area still more exactly. The pharynx consists of three divisions lying one above the other. The middle of these can be seen when the mouth is open. The other two divisions however can only be seen by examination with a laryngeal or a naso-pharyngeal mirror. These three divisions are:

1. The meso-pharynx (oro-pharynx)—that is to say, that part of the pharynx which may be inspected through the open mouth by simply depressing the tongue.

2. The epi-pharynx (naso-pharynx)—that is, the nasal part of the pharynx; it lies above the oro-pharynx, is

concealed by the soft palate, and therefore cannot be seen without a naso-pharyngeal mirror. It reaches to the roof of the pharynx.

3. The hyo-pharynx (the laryngo-pharynx)—that is, the laryngeal part of the pharynx; it lies below the meso-pharynx, and its inspection is only possible by the aid of a laryngeal mirror. The upper parts of the larynx project into it below.

The pathological changes which cause dysphagia may be situated in either of the three divisions of the pharynx, and it is therefore not sufficient, as so often happens in these cases, to merely inspect the meso-pharynx. If no cause for the pain can be discovered in this region, the examination should always be extended, and include the other two divisions of the pharynx.

1. Diseases of the Meso-pharynx.

The diseases of the meso-pharynx are already well known to the general practitioner, because they are of frequent occurrence, and are comparatively easy to recognize.

Though they will therefore not be very deeply considered here, a few useful hints about their general characteristics may appropriately be given. The following preliminary remarks should be carefully noted:

How may the examination of the pharynx be best undertaken?

A tongue depressor is the only instrument required. A straight, flat depressor (Fig. 22) is most to be recom-

mended, because it is very simple to use, and it can be easily substituted by articles of a similar shape which are everywhere procurable. If a doctor accustoms himself to the use of one or other of the different

FIG. 22.—FLAT TONGUE DEPRESSOR.

forms of curved tongue depressor, he will find himself at a great disadvantage, when he is, in cases of necessity, compelled to use the handle of a spoon or similar article.

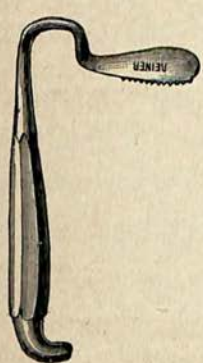


FIG. 23. — TÜRK'S BENT TONGUE DEPRESSOR.

In making a posterior rhinoscopic examination a straight spatula will also suffice.

Türk's tongue depressor (*Fig. 23*) may be used when the doctor wishes to have both hands free, in which case the patient is directed to depress his own tongue with this instrument.

In examining the pharynx the patient is directed to open his mouth wide; the straight depressor is then introduced, but it should not be depressed until its far end lies over the base of the tongue, when the whole instrument should be lowered simultaneously, and an even pressure exerted towards the floor of the mouth. The pressure exerted by the inner end of the spatula is now slightly increased, until the whole instrument assumes a slightly oblique position (Fig. 24). In doing this, it is necessary to ascertain

that the tongue is not caught between the teeth and the depressor, an accident which is very likely to happen, because most people, when requested to show the inside of the mouth, unconsciously protrude the tongue when doing so. It is also necessary to see that the patient does not hold his breath and strain himself. The latter precaution is of quite exceptional importance, because it is tolerably certain that attention to this point will prevent the retching movements which

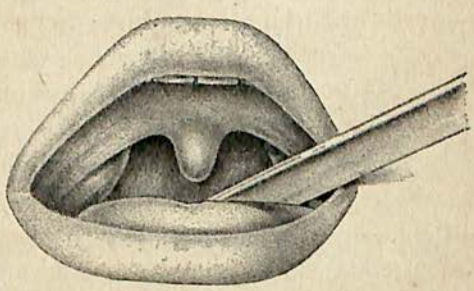


FIG. 24.—CORRECT METHOD OF DEPRESSING THE TONGUE.

would otherwise be caused by the pressure of the instrument.

It may almost always be observed that the patient holds his breath the moment the depressor is placed on the tongue, and quickly afterwards starts to retch. To avoid this the doctor should himself show the patient how to breathe freely and quietly through the open mouth, and then get him to do likewise whilst the spatula is being introduced. If this is done, it will be found that the pressure of the latter can be borne even by the most sensitive individual. The patient should

be continually admonished to breathe quietly during the whole period of the examination.

It is quite unnecessary to use cocaine in making an examination of this sort. If, however, it should ever be necessary to do so, it is only necessary to paint the base of the tongue, as it is from this region that the retching reflex arises.

The above method of examining the meso-pharynx is quite sufficient to determine the conditions present. Its purpose is to overcome the curvature of the tongue, which is the natural obstacle to our obtaining a satisfactory view of this region. It is seldom possible to properly examine the meso-pharynx without using a tongue depressor. The above method very seldom fails, though it may do so in patients who are extremely sensitive; there are, for example, some people who attempt to retch as soon as ever the mouth is opened. Such individuals, who are usually of an alcoholic, neurasthenic, or very anxious disposition, are fortunately very seldom met with. The examining doctor is usually to blame if retching movements occur; he has either inserted the spatula crookedly or too far back, or depressed the tongue too much, or finally—and this is most often the case—he has allowed the patient to hold his breath.

To inspect the pharynx in the case of young and unruly children is not often such a simple matter.

In the first place the child should be securely held, after which it may be necessary to adopt some means to make it open its mouth.

The methods employed to attain these ends may be suitably considered here. Only one method of holding

children will be described at length. It is, however, a method which may be employed in all cases, and which, if the child is not too strong or too old, may usually be easily carried out with the help of only one assistant.

An attempt should never be made to examine a child unless it be securely held. If this precaution be neglected, the examination is not only more painful, but will last considerably longer; it resembles rather a scuffle than a medical examination; the doctor may injure the child, or the child the doctor; and, finally, the desired result is usually not attained. The examination will always be successful if it be carried out with patience, quietness, and the help of two strong arms.

The assistant sits the child (which should be enveloped in a linen cloth) upon her right thigh, and crosses her own legs about those of the child; she must make sure, while doing this, that the feet of the child are not supported upon the floor or upon any part of the chair used by the examining doctor. The assistant now passes her left arm in front of the child, and grasps the child's forearm with her left hand. I say expressly the forearm, because if the child be wrongly held, if the upper arm or the hand be grasped instead of the forearm, the forearm or the whole arm may be wrenched free by a sudden jerk, and the examination thereby spoilt. Finally, the assistant presses the child's head backwards against the right side of her own chest, by pressing her right hand firmly against its forehead (Fig. 25). This method of

fixation has been widely adopted, and has given excellent results even in the case of very obstreperous children.

FIG. 25.—CHILD HELD BY A SINGLE ASSISTANT.

The American variation of this method is also to be recommended; the only difference is that the left arm of the assistant is not passed forwards around the

child's breast, but backwards between the child's arms and back. The left hand then securely grasps the

FIG. 26.—CHILD HELD BY A SINGLE ASSISTANT: AMERICAN METHOD.

The assistant's left arm passes behind the child's back and fixes its right arm.

child's right arm around the elbow (Fig. 26). This method possesses the one disadvantage, that if the

child resists too strongly, there is a possibility of its dislocating its right arm at the shoulder.

If two assistants are available—a circumstance which is greatly to be desired when dealing with older children—one of these should take complete charge of the child's head, holding it firmly between her two hands. The second assistant holds the child in the manner already described, with this difference: that she now holds the child's left forearm with her right hand and the child's right forearm with her left hand. The assistant upon whose thigh the child is sitting should have her chair turned somewhat sideways, in order that the child may be sitting straight in front of the doctor, and that the assistant holding the head may have more room (Fig. 27).

A number of means may be employed to make an unwilling child open its mouth. The following method is both painless and harmless: When talking is without effect, and the child continues to keep its teeth and lips closely pressed together, it is simply necessary to hold its nose. The lips will now certainly be opened, but perhaps not the teeth. In this case the doctor applies the spatula to the teeth, and waits quietly until the diminished supply of air necessitates the child's separating its teeth for one moment; the spatula is now quickly inserted as far back as possible upon the tongue. The child will probably now close its teeth upon the spatula and hold it fast. If, however, the instrument is levered backwards, it soon comes to press upon the base of the tongue, as a result of which the child starts to retch, and the mouth of course

stands wide open. The pressure applied to the base of the tongue should be maintained until the inspection has been completed.

FIG. 27.—CHILD HELD BY TWO ASSISTANTS.

There are other methods—as, for example, passing a probe through the gap which lies behind the closed teeth, for the purpose of irritating the soft palate. I have never seen such methods used to good effect.

What is to be noticed upon making an Examination of the Pharynx (Meso-pharynx)?

It is necessary to proceed systematically when examining the pharynx; the soft palate with the uvula, the two palatal arches, the tonsils, and the posterior pharyngeal wall, have all to be considered. In doing this, special attention should be paid to the general condition of the mucous membrane, the consistency of the tonsils, and the mobility of the soft palate.

When judging the condition of the mucous membrane, it should be borne in mind that in hardly any other part of the body can this structure show so many variations within the normal limits as it does in the pharynx. The mucous membrane of the posterior pharyngeal wall possesses this peculiarity in a special degree. But the palatal mucous membrane may also present marked variations; it may be anæmic or hyperæmic, coarse or delicate, dull or bright, moist or dry, and so on in every conceivable combination.

It would be a great mistake in any case to diagnose the patient's disease, or even to try and explain any of his symptoms, by the condition of the pharyngeal mucous membrane alone. Not every diffuse redness of the throat, nor every dilated vessel, may be considered pathological. There are people with an apparently quite normal pharyngeal mucous membrane who suffer to an almost unbearable degree from their throats, and others, again, who suffer not the smallest inconvenience,

although they present what are apparently well-marked pathological changes in the throat.

The doctor is not in a position to diagnose the existence of pathological changes in the pharyngeal mucous membrane, unless he has had considerable experience of such cases, or unless he is aware in any individual case that the patient's pharyngeal mucous membrane had previously presented quite a different appearance.

In the history of how many patients do we not read about the redness and swelling of the pharyngeal mucous membrane! How many family doctors, after long and futile treatment, bring their patients to the consultant to have such symptoms explained! How often does a patient himself diagnose this condition! But experience teaches us that that which the general public and many medical practitioners call redness and swelling of the pharynx may not in a pathological sense be considered as such. The patient's troubles only arise in such cases when he himself (either by chance or because of some odd sensation) examines and interprets the condition of his throat. The pharynx represents the only large area of mucous membrane of which people can make full and easy inspection, and its many-shaped prominences and depressions, as well as its various and changing secretions, afford rich opportunity for both patients and medical practitioners to arrive at a false conclusion.

How often does it not occur that people who have by chance observed the papillæ circumvallatæ on their own tongues excitedly run to a doctor under the firm

conviction that they have a growth (usually cancer) in this situation! How often are pale atrophic areas on the posterior pharyngeal wall taken for ulcerations, and how often are the harmless granules so often present in this situation the objects of daily observation and great mental perturbation in perfectly healthy individuals!

It is the duty of the family doctor in these cases to calm the fears of his patient, and, above everything else, to prevent him examining his throat. Mothers, also, should not examine their children's throats. It should be explained to the mother that she is far from being in a position to distinguish a diseased from a healthy condition in her child's throat, and that therefore the only result of such an examination will be the drawing of wrong conclusions and the disturbance of her own peace of mind.

When all parts of the mucous membrane have been inspected, a special examination should be undertaken of both tonsils. In doing this a note should be taken of their size and shape, their relations to the faucial pillars, and any peculiarities of their surface.

Quite erroneous ideas are commonly formed about these relations. They are considered in the section dealing with enlargement of the tonsils.

In conclusion, the movements of the pharyngeal muscles should be examined in the orthodox manner. The patient is requested to say 'a,' in doing which the soft palate is raised, and approaches the posterior pharyngeal wall.

This act furthers the examination in two ways. In

the first place, that part of the posterior pharyngeal wall which is placed somewhat higher, and which is hidden when the soft palate is in its usual position, may be brought into view; and in the second, opportunity is afforded to test the motility of the soft palate.

A more detailed account of the individual points to be observed when making this examination will be given in an ensuing section.

In dealing with the diseases of the meso-pharynx, a practical rather than a scientific classification is adopted. The diseases accompanied by dysphagia, which shall be considered first, are therefore subdivided into the following three groups:

1. Those diseases which are complicated by the appearance of white patches (altered epithelium, false membranes, etc.).

2. Those diseases which are complicated by ulcerations.

3. Those diseases which are neither complicated by white patches or ulcerations.

(*a*) Diseases of the Meso-Pharynx which are accompanied by Dysphagia and the Appearance of White Patches.

Of these affections a consideration will first be made of **angina follicularis** and **angina lacunaris**.

Angina follicularis is an inflammation of the faucial tonsils in which the tonsillar follicles are swollen and project prominently beneath the mucous membrane.

Angina lacunaris is an inflammation of the faucial tonsils in which the tonsillar crypts are filled with plugs,

consisting of secretion, shed epithelium cells, and various kinds of bacteria. The patches found on the tonsillar surfaces in these affections are white and circular, but rarely become confluent. There is therefore no tendency to the formation of a uniform detachable membrane. These patches are found exclusively where there is adenoid tissue, a fact which it is important to remember when making a differential diagnosis from diphtheria.

Angina lacunaris is almost always bilateral. The neighbourhood of the white patches shows a diffuse red coloration. This hyperæmia may assume various degrees of intensity. No degree is, however, characteristic of the angina.

The white patches appear rather quickly, but are slow in disappearing. They are very commonly mistaken for ulcerations.

Removal of the patches, whether for diagnostic or for therapeutic purposes, should never be undertaken either in angina or diphtheria.

Local mechanical treatment of any form (such as painting, wiping out the lacunæ, removal of deposits, etc.) should be rigorously avoided in all these diseases. Such treatment only irritates, and causes further lesions of the mucous membrane, without doing any good.

These diseases are usually accompanied by fever, which in their early stages, especially in children, may be very high. It seldom lasts longer than one or two days—that is to say, considerably shorter than the pharyngeal manifestations.

Painful swelling of the glands in the neck may often accompany angina, as it does diphtheria.

Treatment.—It is of the first importance that the patient remains in bed until all signs of the disease have disappeared. It is not well enough known, that a great many serious affections are caused by insufficient rest during the period of convalescence from these affections.

As such may be mentioned general pyæmia, septic endo- and pericarditis and septic arthritis, which affections are due to absorption from the septic foci in the tonsils.

The frequent occurrence of appendicitis has also been ascribed to anginal affections of the tonsils.

If the inflammation is very severe, the patient may be given ice to suck. Moist warm compresses are in all cases much appreciated by the patient. Accurate instruction should, however, be given as to the method of their application, as mistakes are often made in this respect.

As a gargle in these affections, a 2 per cent. solution of chlorate of potash (in spite of the many dangers which have been ascribed to its use) is most to be recommended. The patient should, however, be strictly enjoined not to swallow the solution. The gargle may be used about once every half an hour.

All other drugs which have been advocated for this purpose, such as potassium permanganate, hydrogen peroxide, thymol, etc., are inferior in their action to chlorate of potash.

In adults the inhalation of cold sprays may also be

employed with benefit. For this purpose a solution of boric acid or lime-water may be used. Schrötter's (Fig. 28) or Richardson's (Fig. 29) atomizer may be recommended. At the cost of repetition, let it be mentioned once more that painting the affected parts, or any other form of local mechanical treatment, should on no account be undertaken.

FIG. 28.—SCHRÖTTER'S ATOMIZER.

FIG. 29.—RICHARDSON'S ATOMIZER.

As regards nourishment, the patient should take plenty of cool, soft, and easily digestible food.

Pharyngeal diphtheria may in every way resemble an angina lacunaris. In such cases it can only be decided with certainty that the case is one of diphtheria, by making a bacteriological examination and obtaining a pure culture of the diphtheria bacilli. It is not sufficient for the diagnosis if only isolated Klebs-

Löffler bacilli are found, as it is well known that these bacilli, as well as strepto-, staphylo-, and diplococci and other bacteria, are very often found on tonsils affected with angina, or even on those which show no other evidence of disease.

A cautious doctor will do well to consider every tolerably severe case of angina follicularis a case of diphtheria, without, however, disturbing the patient and those about him by stating his diagnosis.

The deposits seen in diphtheria are either white, yellow, or discoloured. They may be isolated or confluent.

Almost the only sure clinical sign of pharyngeal diphtheria is the existence of deposits on some part which is quite devoid of adenoid tissue—that is to say, on the smooth mucous membrane of the palatal arches or of the posterior pharyngeal wall.

Bilateral deposits are not characteristic, but, on the other hand, a unilateral deposit speaks rather for diphtheria. The mucous membrane of the pharynx is usually dark red, and shows œdematous swelling; in some cases, however, it may be only slightly hyperæmic. The formation of the deposit takes place rather slowly, but it is usually cast off relatively quickly.

As already mentioned, an attempt should not be made to ascertain whether the surface bleeds when the false membrane is torn off.

There is nothing characteristic about the accompanying fever. In children it reaches a high grade at first, just as in angina follicularis, but falls again after one or two days. In adults fever may be quite

absent. The fact that the submaxillary glands are swollen and painful is no absolute diagnostic sign of diphtheria.

Clinically, only the most severe forms of diphtheria can be diagnosed with certainty. Such a case usually sets in with light fever, the deposit on the pharyngeal wall is well marked, and, what is of greater diagnostic importance, it may be seen to spread after a few days, either downwards towards the larynx, or upwards towards the nose. If it spreads downwards, it gives rise to phonatory and respiratory disturbances; and if it spreads upwards, it causes nasal obstruction and suppurative discharge from the nostrils, from which portions of membrane may be expelled. Convalescence usually sets in within one or two weeks, and during this period, even though the attack had been apparently very slight, its diphtheritic nature may be demonstrated by the occurrence of paralysis either of the accommodation or of the soft palate, etc.

There is no such disease as chronic diphtheria, in the sense that the pharyngeal changes last for several weeks.

A more exhaustive account of this affection would be out of place in a book of this sort.

Concerning the present-day treatment of diphtheria, it is only necessary to add a few words. Behring's anti-diphtheritic serum should be injected as soon as possible, even if the diagnosis is doubtful, and due prophylactic measures should be adopted by those surrounding the patient. The local treatment is entirely of secondary importance, and should be conducted on the lines already mentioned in connection with angina

lacunaris. The general treatment and the treatment of complications and after-results must be based upon general medical principles. The first and most important of these is that the patient be kept quietly in bed until all danger is over of such after-results as cardiac paralysis, renal disease, etc.

The **gangrenous or septic form of angina** is characterized by the appearance of a bloody ichorous membrane, and the formation of necrotic ulcerations in the pharynx. The patient's general condition is very serious, and death usually takes place within a few days.

Plaut-Vincent angina may resemble a prolonged attack of diphtheria, which is unaccompanied by fever or subjective symptoms, and which may be accompanied by ulceration. The disease is due to infection caused by specific bacteria (fusiform bacilli and spirillæ), and can only be diagnosed with certainty by making a bacteriological examination. It is a harmless disease.

As regards **aphthæ**, it need only be shortly stated that they are a special affection of childhood; they, however, also occur in adults, and are then usually accompanied by digestive disturbances, or in women by menstrual disorders. They are usually manifestations of stomatitis, and are commonly found either at the junction of the mucous membrane of the cheeks and the gums, or on the soft palate. They are isolated, resemble losses of substance, with sharp, raised, white edges, and are surrounded by a hyperæmic mucous membrane. Some people are predisposed to repeated exacerbations of this very painful affection.

Treatment.—Rinse the mouth with 4 per cent. boric

lotion, cauterize the aphthæ with 2 to 3 per cent. solution of silver nitrate, and treat the exciting conditions.

Bednar's aphthæ, which occur in children, are better known to the general practitioner than to the laryngologist.

Of the affections of the pharynx which are accompanied by dysphagia and white deposits, we have still to mention **herpes** and **pemphigus.**

The first of these affections may occur in the pharynx alone, or in common with herpes of the face or lip. There are formed on the mucous membrane little vesicles the size of a millet-seed, which, however, quickly burst and fall together, so that on inspection one usually only sees round, sharply circumscribed, white erosions, surrounded by a hyperæmic area. The fact that they have resulted from vesicles is proved by their epithelial covering; they are most often seen on the soft palate, where they occur in groups upon a hyperæmic mucous membrane, and cause great pain when the patient takes his nourishment. Slight fever is usually present. The affection seldom lasts longer than one or two days, even if left untreated. As regards treatment, what has been said in regard to the anginas is also applicable to this affection.

Pemphigus is characterized by the appearance of relatively large blebs (about the size of a sixpence), or, since these quickly burst, by the appearance of white, wrinkled aggregations lying upon the mucous membrane. The diagnosis is easy if pemphigus of the skin exists at the same time, but is more difficult if the

mucous membrane is primarily affected. The hyperæmia of the surrounding membrane is, as a rule, not very intense. The amount of dysphagia varies directly with the area of mucous membrane involved. Healing quickly occurs, but recurrences are the rule. Owing to the great difficulty which the patient experiences in taking his food, emaciation quickly results. This troublesome disease (which nearly always runs an afebrile course) does not occur in children.

Treatment cannot cure the disease, though much may be done to alleviate the patient's sufferings. The dysphagia may be lessened by painting the affected area with a 5 to 10 per cent. solution of cocaine, or dusting it with orthoform shortly before the patient takes his food. Internally arsenic may be tried.

It is well known that **syphilis** frequently affects the pharynx. It occurs most frequently as a secondary manifestation, but is also comparatively common in the tertiary stage of the disease. It causes dysphagia, and is characterized in the secondary stage by the appearance of the well-known mucous patches.

Even before the examination, or in doubtful cases during the examination, a very valuable and almost infallible proof of the existence of these mucous or 'opaline' patches is to be derived from the statement which the patient makes concerning the length of time he has suffered from dysphagia. When, for example, the latter states that he has felt the pain for weeks (or longer than about ten to fourteen days), it may with tolerable certainty be concluded from this statement alone that the case is one of syphilis. By this means

it is possible at the start to exclude the large group of anginas, because these acute affections have always run their course within the space of time mentioned; even if these diseases had not attacked both sides simultaneously, they would have run their course within two to three weeks. In order to be still more certain, the patient should now be asked whether the dysphagia has been continuous, or whether it has been interrupted by painless intervals. If he answers in the affirmative, we may have to make sure that the case is not one of repeated attacks of angina; if in the negative, it can scarcely be anything else but syphilis.

In forming a diagnosis by inspection, it should be always firmly borne in mind that it is not possible to differentiate a catarrhal angina from an angina syphilitica erythematosa, in which mucous patches are quite absent. All the current statements concerning the specific appearance or colour of the mucous membrane, the demarcation of the hyperæmic area, etc., are worthless. At the most, a suspicion of syphilis should only be entertained if the disease is persistent in its course. The only sure and decisive characteristic of this disease is the presence of mucous patches.

It is easy to diagnose this affection if the patient asserts that he has had syphilis, and patches are to be seen, not alone on the tonsils, but also in their proximity. The diagnosis is, however, more difficult when the patient denies syphilitic infection (or can give no satisfactory answer on this point), and the examination only reveals the presence of some indistinct white spots on the tonsils.

Mucous patches which have existed for a considerable time in an untreated condition (luxurious patches) have a quite characteristic appearance. They cover relatively large areas, their epithelium has a peculiar bluish-white coloration, and on their surface may be seen dark, shallow, irregular depressions, which are caused by a shedding of the epithelium. Their edges are slightly raised, finely irregular, and of a saturated white colour.

When the patches first appear, they are, however, more difficult to recognize. They have then a milky or opalescent appearance, with slightly elevated and irregular edges of a saturated white colour.

When the patches are only situated on the tonsils, we have to exclude the possibility of a follicular or lacunar angina. In these latter affections the patches are only to be seen on the follicles or on the lacunæ, as the case may be; whereas mucous patches show a preference for the raised intermediate tissue.

The milky discoloration is often simulated when the examination is conducted by artificial light, but the real colour of the mucous membrane will always become apparent on examination by daylight.

Sometimes tonsils show well-marked fibrous changes on the surface, which may lead to the above condition being diagnosed. Such a surface has, however, a more yellowish appearance, it reflects light strongly, and from its edges fibrous extensions may be seen radiating into the surrounding tissue.

Characteristic patches should, of course, also be sought for on the tongue and in the mouth cavity,

and the presence or absence of syphilitic symptoms in other parts of the body should be ascertained.

Sometimes the only circumstance which points to the presence of syphilitic erosions, is the fact that one or other of the palatal arches has a strikingly sharp yellow border. The erosion in such cases is situated on the tonsillar surface of the arch, and is therefore not visible from the front. In doubtful cases it is very important to inspect both surfaces of the arches, either by suitable rotation of the head, or by the introduction of a small laryngeal mirror. In this way ulcerative patches which have for a long time remained hidden may be discovered.

With regard to the position of mucous patches, a still more important point is to be noted. Patients are often met with who, on account of persistent dysphagia, have wandered from one doctor to another without having the cause of their trouble elucidated, even though they themselves have vouchsafed the fact that they have had syphilis. This is often to be explained by the fact that the mucous patch lies on the base of the tongue, or on a part of the tongue which is hidden by the palatal arches, and is therefore not remarked by the usual methods of inspection. Such a patch can only be recognized and suitably treated by examination with the mirror.

General treatment is, of course, most essential in these cases; it is, however, of great importance that local treatment be also adopted. If the latter be neglected, the patches frequently show no tendency to disappear, whilst under its influence their duration is

always considerably shortened. The patient's most distressing symptom — painful deglutition — may be further quickly removed if local be combined with general treatment. The affected areas should be well painted with some astringent solution, the choice of which being immaterial. Solutions of silver nitrate of various strengths (also silver nitrate in substance), chromic acid, tincture of iodine, iodized glycerine, or a 1 per cent. alcoholic solution of sublimate, may be used for this purpose. The paint should only be applied to the diseased areas of the mucous membrane, and not, as so often happens, to the whole surface of the pharynx, as the chemical and mechanical irritation caused by such indiscriminate painting tends to set up an inflammation of the healthy mucous membrane surrounding the patches.

The gummatous forms of pharyngeal syphilis, as well as the rare cases of primary infection in this region, will be described amongst the ulcerative affections of the pharynx.

Much cannot be said here about injuries to the pharynx. They are only mentioned because superficial injuries of the mucous membrane in this region may lead to errors in diagnosis. If the mucous membrane is deprived of its superficial epithelium through an injury, the injured area is covered in a few hours by a white membranous deposit, consisting of cast-off epithelium, round cells, and fibrinous exudate, and resembling very much the deposit seen in various other pharyngeal affections.

The history in these cases should prevent our

being led astray; but often the cause of the injury is of so unimportant a nature that it is entirely overlooked by the patient, whose attention is only arrested by the resulting conditions—that is to say, by the dysphagia and the white deposit in his pharynx.

Such cases are usually due to the patient's having swallowed a small piece of bone or similar substance, which has wounded the uvula or some adjoining region. These slight injuries heal up readily without any local treatment.

In cases of **corrosion**, caused by acids or alkalies, the diagnosis may be confirmed by the coincident implication of the mouth and lips.

It is also possible for the patient to scald himself with a hot fluid. I have, however, never seen a case in which the pharynx was scalded by drinking hot soup, though such an etiological factor is commonly asserted by the patient. The statement that pharyngeal inflammation has arisen from such causes should be taken with reserve.

In this section must also be described that condition in which small **concretions** are found **on the surface of the tonsils**. This affection is unaccompanied by any real dysphagia, but, owing to the presence of white deposits, it must, for differentiation purposes, be classified amongst the diseases now being considered. These deposits may be present for a prolonged period without causing any unusual symptom, and without the patient being aware of their existence. They may, however, cause the sensation of a foreign body in the pharynx, especially if the patient swallows when his

mouth is empty. The concretions are usually found in the lacunæ of tonsils which show no other signs of inflammation, and are composed of cast-off epithelium, detritus, numerous bacteria, fat, and even particles of food. They are soft, and vary in size from that of a millet-seed to that of a bean. They often remain hidden for months or years in deep depressions in the tonsils, in which case they may attain a considerable size. They decompose readily, and as a result they acquire in time a foul smell, which communicates itself to the breath, and is often solely responsible for bringing the patient to consult a doctor. They are often ejected from the mouth in the form of small pellets when the patient gets an attack of coughing.

It is often very difficult to prevent the frequent recurrence of these concretions. This fact is not merely due to the deep character of the lacunæ, but to an abnormal consistency of the saliva.

I cannot from my own experience confirm the statement made in so many textbooks that their existence predisposes the patient to frequent attacks of angina.

Their temporary removal may be easily accomplished, either by scraping them away with a sharp spoon, by extracting them with a dressing forceps, or by expressing them between the fingers. This last method may be carried out by the patient himself in those cases in which they frequently recur. Imhofer, Avellis, and others have designed special instruments for this purpose.

In order to prevent the frequent recurrence of these concretions, the deeper tonsillar crypts should be

either slit up with a tonsil-knife (an instrument of the same shape as a strabismus hook) or burnt with the galvano-cautery. If the crypt be situated in a prominent portion of the tonsil, this portion may be entirely removed, because very often the crypts tend to re-form, even after they have been slit or cauterized.

Calculi in the tonsil may be looked upon as a similar condition to the above, though it is much less frequently met with. The calculi are not often visible, owing to their deep situation in the tonsillar parenchyma. They are usually unilateral, and may reach the size of a cherry-stone. They are coloured chalk-white, grey, or brown, and consist of organic substances and salts of lime. They are of hard consistency, and the patient may for a considerable time be unaware of their existence. In cases of tonsillotomy performed with the guillotine, their presence is of ominous importance. If the ring-knife suddenly becomes impeded by such a calculus, the operation cannot be finished, and at the same time it is difficult to withdraw the instrument, since its fork has already pierced the tonsil. In such a case the tonsillotome should either be disjointed *in situ*, or else the instrument should be cut free from the tonsil with a long knife, a proceeding which, owing to the excitement and restlessness of the patient, is not always easy to perform, and may result in unnecessary wounding of the parts. For this reason it should be made a rule before doing a tonsillotomy to examine the tonsils with the finger.

That form of **pharyngeal mycosis** which is caused by the leptothrix buccalis must also be considered

here. This affection, though unaccompanied by dysphagia, is characterized by the formation of white excrescences upon the surface of the tonsils. The fungus settles in the crypts of the tonsil, on the base of the tongue, and on the lymph-follicles of the posterior pharyngeal wall; causes keratization of the superficial epithelium, and in this way is responsible for the production of the characteristic white excrescences.

These excrescences are of a chalk-white colour, and of irregular shape and size. The surrounding mucous membrane has a completely normal appearance, and is usually not even hyperæmic. They are so firmly attached to the mucous membrane that their removal causes slight hæmorrhage. They feel hard to the touch.

They frequently cause no symptoms whatever, and are then usually discovered by chance, the patient not having been aware of their existence. On the other hand, the patient may be much worried by the sensation that a foreign body exists in his throat. This affection, however, never causes pain.

When they cause no symptoms, the excrescences need not be interfered with. They are quite harmless, and vanish spontaneously after weeks, months, or years. When, however, the patient is in any way bothered by their presence, they should be removed one after the other with a forceps or a sharp spoon. The surface may be subsequently painted with tincture of iodine, silver nitrate, or chromic acid solution, or cauterized with the galvano-cautery. None of these methods can, however, be relied upon to prevent the

fungus from growing again on the same or on other parts of the mucous membrane. These continual recrudescences, which cannot be influenced by any local treatment, often severely test the patience of both the doctor and his patient. Finally, they cease spontaneously; the chemical consistency of the saliva probably exerts a certain influence in bringing this about.

Of the pharyngeal mycoses we have still to mention **thrush**, an affection which, as is well known, occurs almost exclusively in infants.

(*b*) Diseases of the Meso-pharynx which are accompanied by Dysphagia and Ulceration.

The diseases of the pharynx which are accompanied by dysphagia and ulceration cannot be described at any great length here, because both the differential diagnosis and the treatment of these affections require much special experience. The general practitioner has, however, in such cases to determine if it really is a case of ulceration in the meso-pharynx, a determination which is, unfortunately, not often seriously undertaken. It is extremely common, for instance, for a case with deposits on or in the lacunæ of the tonsil to be mistaken for some form of angina with ulceration, the deposits themselves being taken for the products of decomposition at the base of the ulcer. By mistakes of this kind the patient is made to suffer unnecessary worry.

Without entering into a protracted account of

ulcerative conditions in the pharynx, the following remarks may appropriately be made:

The deeper ulcerations with tissue necrosis are only to be met with after an injury, or as a manifestation of some specific general disease, such as diphtheria, tuberculosis, lupus, or syphilis. There are, however, other diseases capable of causing ulceration in the pharynx, such as glanders, typhoid fever, small-pox, measles, influenza, leprosy, scleroma, and breaking-down neoplasms; but, partly owing to the rareness of their occurrence, and partly to the difficulty of diagnosis, they need scarcely be considered by the general practitioner.

The following remarks may be made with regard to the recognition of those ulcers which owe their origin to the first group of diseases just mentioned:

Diphtherial ulceration may be readily differentiated by the acute course of the disease, and by the other characteristic symptoms already described.

Though the other affections usually run a chronic course, it is necessary to make one exception, and that is the case of **acute miliary tuberculosis.** We should, however, be led to form a correct diagnosis in such cases by the typhoid state of the patient, and the presence in the meso-pharynx of numerous miliary tubercles upon a strongly hyperæmic and swollen mucous membrane. Owing to the speed with which this disease runs its course, there is seldom time for deep or extensive ulceration to take place.

The commonest situations for **chronic tubercular ulcerations** in the meso-pharynx are the soft palate, the palatal arches, and the tonsils. The surrounding

tissues are usually pale and slightly infiltrated. The edges of the ulceration are irregular, jagged, partly undermined, and show yellow miliary nodules, by the breaking down of which the ulcerative process continues. This latter fact is of the greatest diagnostic importance.

If the tubercular ulcers are very extensive, as not uncommonly is the case, they may be confused with broken-down gummata. Special attention should be paid in such cases to the presence or absence of the yellow nodules in the edges of the ulceration, and, if necessary, a piece of the infiltrated edge should be removed and subjected to histological and bacteriological examination.

The prognosis is not absolutely unfavourable; those cases especially may quite heal up in which the patient's general condition is good, and the lungs are healthy or but slightly affected. The resulting scar is thick, pale, and smooth.

Treatment.—Suitable general treatment should, of course, be adopted. The local treatment consists in painting the ulcers daily with a 50 to 80 per cent. solution of lactic acid in water; they may also be scraped with a sharp spoon. Pure orthoform powder blown on to the ulcerated surface is the best means of counteracting the dysphagia. The affected areas may also, if necessary, be painted with a 10 per cent. solution of cocaine immediately before the patient takes his nourishment.

Lupus, which is also caused by the tubercle bacillus, is in reality a mild form of local tuberculosis. It

occurs chiefly in young people. The following are the characteristic symptoms: There is slight dysphagia. The ulceration is usually shallow and not very extensive; at its edges may be seen red wart-like nodules, about as large as a pin's head; there is little secretion, a tendency to scar-formation, sometimes fresh nodules being noticed in the scars. A point in support of the diagnosis, which, however, may be absent, is the co-existence of lupus of the skin.

The prognosis is fair.

The course is very tedious, the disease often lasting many years.

The treatment is the same as that adopted for tuberculous ulceration.

Syphilis may rarely have its primary seat in the pharynx. Secondary and tertiary manifestations of the disease are, however, common in this region.

A primary induration in the pharynx is usually found on one of the tonsils. The affected tonsil is enlarged, the mucous membrane is usually very swollen and hyperæmic, and shows a solitary ulceration which is of a granular, fatty appearance. The diagnosis may be placed beyond doubt if, besides these objective symptoms, the tonsil feels hard on palpation, and if the submaxillary glands on the affected side are enlarged and only slightly painful. In advanced cases the rash will be already visible on the skin. This symptom, however, as is usual in cases in which the primary sclerosis is extragenital, may be late in appearing.

Local Treatment.—The surface of the ulcer should

be cleansed, and then painted with a 5 per cent. solution of silver nitrate, tincture of iodine, or sublimate solution.

The general treatment should be that commonly adopted for this disease.

Secondary syphilitic pharyngitis is characterized by the appearance of the mucous patches already described. These patches may, however, break down and give rise to superficial losses of substance. Their recognition is not difficult, having regard to the general appearance of the pharynx in such cases.

In the tertiary stage of syphilis ulcerated and breaking-down gummata may be found in any part of the pharynx. They occur both in the acquired and in the hereditary forms of the disease, in the latter usually making their appearance about puberty.

These ulcerations arise from a progressive destruction from within outwards of localized, or more rarely diffuse, infiltrations; they therefore lie in the midst of a swollen, hyperæmic mucous membrane, have a considerable depth, are often funnel-shaped, and their edges are sharp and steep. Under certain circumstances they might be confused with tubercular ulcerations; the latter, however, tend to spread superficially, while the former are limited by the tumour (gumma), from the breaking down of which they have arisen. Tubercular ulcers are usually surrounded by a pale mucous membrane, which shows the characteristic yellow miliary nodules at the edges of the ulceration; gummatous ulcers, on the other hand, are surrounded by a dark red mucous membrane, in which no yellow

nodules are to be seen. In both cases the ulcerated surface has a fatty appearance.

When, however, as often happens, the case is still doubtful, it may be cleared up by the administration of iodide of potassium. In doing this it must, however, be borne in mind that tubercular ulcers (especially in their early stages) also react favourably to this drug. In certain cases the diagnosis can only be established by examining microscopically for the spirochætæ, and employing Wassermann's or Pirquet's test.

The losses of substance are often so considerable that they result in a perforation of the soft palate or a loss of the uvula. In such severe cases there are disturbances of phonation, and swallowing is not only painful, but also difficult, the food tending to become lodged in the naso-pharynx.

The scars resulting from gummatous ulcers are thick and very irregular; they are frequently responsible for the formation of contractions and adhesions in the pharynx, in which way they seriously interfere with the functions of this region. For diagnostic purposes it may be stated that the scars resulting from tubercular ulceration are flat, and do not tend to undergo much shrinking.

In describing the treatment of tertiary syphilitic lesions in the pharynx, it must be once more emphatically stated that, even though it has in some cases proved successful, it does not suffice to institute a general treatment alone. If local treatment be neglected, the disease runs a longer and therefore more destructive course, and results in the adhesion of the

soft palate to the posterior pharyngeal wall, or in equally troublesome conditions.

As regards general treatment, the administration of potassium iodide is particularly effective in combating the gummatous forms of the disease. Mercury should, of course, also be administered in some form. If the patient is very run down, his general health should be improved by a course of tonic treatment before the specific treatment is begun.

The local treatment should, however, always be adopted at the start. It consists in mechanically cleansing the floor of the ulcer, and then applying one of the common astringents.

A few words have still to be added about that form of ulceration which results from the **pyogenic infection of a wounded mucous membrane.** It was stated in a previous section that the surface of the mucous membrane is often injured by the accidental swallowing of some sharp or jagged substance, and that the wounded area is in such cases quickly covered by a fibrinous deposit. Such a patient may be aware of the injury, but it frequently happens that his attention is first arrested by the resulting dysphagia. These injuries are seldom of a serious nature; it is only exceptionally, when the infection has penetrated deeply, that phlegmonous inflammation or extensive ulceration results.

If, when making an examination, the doctor is unable to see any of the characteristic signs of a specific affection, and notices that the ulceration is single, he should think of the possibility of an injury

to the mucous membrane, and question the patient on this point.

The progress is very favourable.

The treatment consists in first cleansing and then cauterizing the ulcerated area.

(*c*) Diseases of the Meso-pharynx which are accompanied by Dysphagia, but are not complicated by Ulceration or the Appearance of White Patches.

There are many pharyngeal diseases which may be classified under this heading.

In the first place it is important to question the patient exactly, and ascertain whether the sensation experienced during deglutition is really one of pronounced pain, or whether it is simply a scratching or burning sensation, or the feeling that a foreign body exists in the throat. Patients often fail to properly differentiate these sensations themselves.

The reason why it is important to determine this fact is that cases are often met with in which the changes found on objective examination are not in agreement with the extreme pain of which the patient complains. In such cases no trouble should be spared to determine the real cause of the dysphagia.

It may be concluded that the affection is a slight and superficial one if the patient states that it hurts him to swallow when his mouth is empty—that is to say, to swallow saliva—but that he finds it painless or even beneficial to swallow food. If, on the other hand, the patient also complains of pain on eating

or drinking, it may be concluded that the cause of the dysphagia is a severe and deep-seated one.

For practical reasons it is better to divide the diseases treated of in this section into two groups:

The first group comprise the deep-seated suppurative inflammations, and the second the superficial catarrhal inflammations.

To the first group belong—(1) retro-pharyngeal abscess, and (2) phlegmonous angina. These diseases must be more extensively described because they frequently come under the care of the general practitioner, and an appropriate knowledge of their treatment is therefore of considerable importance to him.

1. **Retro-pharyngeal abscess** may be of either idiopathic or symptomatic origin.

An idiopathic retro-pharyngeal abscess is due to a suppurative inflammation of the prevertebral lymphatic glands; its position is therefore not median, but lateral, in accordance with the position of these glands. It is of frequent occurrence in children, but is not often met with in adults. The affection is characterized by a distinctly circumscribed swelling, situated on one side of the posterior pharyngeal wall. It is soft, and usually shows fluctuation; the mucous membrane over it is swollen, and cannot be displaced; it only appears hyperæmic if the abscess is on the point of breaking down. Fever, if it is present at all, is slight. Dysphagia is not a prominent symptom. The abscess usually bursts spontaneously in from five to ten days. In young children the abscess sometimes causes difficulty in swallowing or respiratory embarrassment.

The treatment resolves itself into making an early incision into the abscess, due care being taken to avoid wounding the soft palate or the tongue.

The prognosis is favourable, a cure usually resulting after a few days.

The hemispherical exostoses, which are frequently found in adults on the posterior pharyngeal wall, may be mistaken for this disease. These, however, usually occupy the middle line, do not cause the patient any trouble, feel bony hard, and do not show any signs of inflammation.

A symptomatic retro-pharyngeal abscess (or sinking abscess) is due to the gravitation of pus from a vertebral caries. The spinal origin of the abscess may be determined by the accompanying symptoms of spinal disease; as such may be mentioned pain when pressure is applied to the head or when the latter is moved.

This suppurative focus has all the properties of a cold abscess, and requires suitable surgical treatment. Incision is, of course, contra-indicated.

2. In **phlegmonous angina** the abscess may be either tonsillar or peritonsillar.

In a case of tonsillar abscess the pain and febrile symptoms are not so pronounced as in a case of peritonsillar abscess. The rigidity of the jaw, so characteristic of the latter affection, is absent in uncomplicated cases.

The condition is usually unilateral. There is swelling of the affected tonsil, without any appreciable participation of the surrounding tissues. The presence of pus

is shown by the occurrence of a circumscribed yellow elevation on the surface of the tonsil.

Any further points about this affection may be deducted from the following description of acute peritonsillitis, which disease is of much more frequent occurrence.

Peritonsillar abscess may be either primary or secondary to an angina follicularis. It is almost always unilateral. It is situated in the cellular tissue which lies between the tonsil on one side and the soft palate and palatal arches on the other. The tonsil itself is either of normal size or, at most, very slightly swollen; this fact enables us to exclude the presence of a tonsillar abscess, and is of importance as regards the site of incision. The soft palate, and especially the anterior palatal arch, are, on the contrary, swollen and prominent. The mucous membrane is œdematous and markedly hyperæmic. The dysphagia is usually intense, the pain radiating towards the ear. Rigidity of the jaw is a prominent symptom; it is due to inflammation of the ligaments surrounding the maxillary joint, and may be so intense that the patient can hardly separate his teeth. In such cases it is only possible to inspect the parts by means of reflected light. Owing to the disturbed function of the soft palate, fluids taken as nourishment may gain entrance to the nose, and the voice is thick and difficult to understand. In comparison to the local symptoms the fever is very slight.

With regard to the general idea that such an abscess tends to spread downwards towards the larynx, it may

be stated that this complication is of very rare occurrence, even if the abscess is present for an appreciable time. This fact must be attributed to the uncommonly dense nature of the tissues along the line of extension. The latter may in unfavourable cases be responsible for the production of an œdema of the lingual surface of the epiglottis or the aryepiglottic folds. This œdema is, however, never a dangerous complication. A true œdema of the glottis—that is to say, an œdema of the vocal cords causing considerable diminution in size of the laryngeal aperture—is not to be feared.

Œdema of the glottis is much too frequently ascribed to local and general conditions, and too often considered a cause of death.

The treatment of acute peritonsillar abscess consists, in the first place, in accelerating the formation of pus by means of hot applications, and in the second place in opening the abscess.

Heat may be best applied in these cases by the constant use of a very hot mouth-wash. For this purpose hot tea (preferably sage tea, which is prepared like ordinary tea) may be used. The head should be held backwards, so that the hot fluid may come in contact with the inflamed part, but no attempt should be made to gargle. The latter only causes pain, increases the inflammation of the mucous membrane, and serves no purpose. Cold may only be employed at the very start of the inflammation in the hope of preventing suppuration. It should, however, be discontinued if it fails to cause a rapid improvement in the patient's condition, because otherwise it only

tends to prolong the course of the inflammation. It is useless to apply poultices to the throat, though they usually have a soothing influence on the patient.

The second important point in the treatment is to open the abscess. There are two reasons why such an abscess should be opened artificially, and not be allowed to rupture spontaneously.

In the first place, it shortens the course of the disease by some days, and rids the patient at once of his intolerable pain ; and in the second, an incision, by establishing a wide opening, permits of free drainage of the abscess cavity.

If the abscess ruptures spontaneously the opening is small and badly situated, and so favours retention of the pus and a fresh exacerbation of the disease.

It is very important that such an abscess should be incised at the correct time, and that the incision should be properly carried out.

Seeing that an extension of the inflammation downwards is not to be feared, it should be made a rule not to incise before the fifth day of the disease, the period of onset being determined by the first occurrence of the pain.

Exception should only be made to this rule in those cases in which pus is present beyond any doubt, and can be seen shining through the bulging mucous membrane.

Sometimes it is necessary, owing to the entreaties of the patient or his friends, or for other reasons, to make the incision somewhat earlier ; in such cases the incision should on no account be considered more than

an attempt to reach the pus. The doctor will in this way spare himself much disappointment and self-reproach. He should never be deceived by the appearance of the parts; the soft palate and the anterior palatal arch often look so prominent that deception is held to be impossible; but, nevertheless, this appearance may be entirely due to œdema and swelling. The incision, which is so hopefully performed, results in blood and disappointment, instead of pus and relief.

The unsuccessful incision is not alone useless, but harmful. The frequently-repeated assertion that it relieves pain is nothing but a traditional fable for the purpose of appeasing both the perpetrator and the victim of this mistake.

If, indeed, the pain and tension are for a short time relieved, they quickly return with all their former intensity. Such an unsuccessful incision has, however, further disadvantages.

If the patient be examined on the following day, it will be found that the whole appearance of the parts has been considerably altered by swelling and the extravasation of blood. The line of incision is covered by exudation, and that part which is really bulged forward by the pus may no longer be distinctly visible. In such a case the pus cannot be reached by bluntly reopening the edges of the incision, and to make a fresh incision simply means to fumble in the dark.

It is therefore better to inform the patient that the abscess is not yet ripe, and to encourage him to bear with his pain a little longer before having it opened.

Even in those cases in which the opening of the abscess is undertaken on or after the fifth day of the disease it is necessary for us to be very cautious in our statements, because disappointment is frequently experienced. To mention one example, the abscess may be small and laterally situated, though the surrounding swelling of the soft parts may be considerable. In such a case the knife, on being inserted, may just fail to enter the abscess.

It may have been noticed that up to this no word has been mentioned about fluctuation as a means of ascertaining either the presence or the situation of the pus. This omission has been made on purpose, because the soft palate and palatal arches always give a false impression of fluctuation when palpated, either in their normal or in diseased conditions. This pseudo-fluctuation is, therefore, often a cause of error.

In one instance, however, this symptom may have diagnostic importance. If on palpation a soft spot is felt surrounded by an indurated area, it is very probable that pus is present.

The results obtained by using a probe are even still more uncertain. This method of examination, which is both painful and unnecessary, should therefore be avoided.

In speaking about the most appropriate time for incision, some indication was also given of the most suitable place to incise. The first point to remember is that the incision should be placed in that part of the inflamed area which, by its prominence and colour, leads us to suspect the close proximity of pus. This

rule, however, cannot always be adhered to, because cases are frequently met with in which these signs are indistinct, or simply represented by a diffuse swelling and œdema of the parts.

Chiari has therefore proposed a very suitable rule to determine the site of incision in all doubtful cases. An imaginary line is drawn from the base of the uvula to the last molar tooth below, and the incision made through what corresponds to the middle third of this line. By adopting this method, the abscess will be reached in far the greater number of cases.

From my own experience, and for many other reasons, I cannot recommend the method proposed by some authors of opening the abscess by passing a blunt probe from the supratonsillar fossa (that triangular depression which is formed by the junction of the two palatal arches above the upper pole of the tonsil).

When making the incision, it should be remembered that the patient is weakened by pain, hunger, and loss of sleep, and has to summon all his energy and will-power to keep his teeth open even for a few moments. Under these circumstances, it is evident that the whole operation should not last longer than a few seconds.

It is seldom advisable to try to open the abscess with a blunt instrument. This is an extremely painful proceeding, even if cocaine has been used and the wall of the abscess is thin and brittle. If, however, the wall is thick or the attempt unsuccessful, the patient simply shouts with agony.

But even if one thrust of the instrument (the patient

will usually not permit a second attempt) be successful, the drainage of the abscess will be both slow and incomplete, because the opening is relatively too small, and not always favourably situated for this purpose.

Opening the abscess with a knife is also painful; it is, however, more certain, only lasts a few seconds, and is unaccompanied by any danger if properly carried out. It results in a large opening, through which the pus has an easy exit.

Finally, we have to consider the method of making the incision.

The first essential is to obtain a quick and thorough evacuation of the pus. I usually make an incision which is roughly about one inch in length. If the incision be made parallel to the edge of the palatal arch, there is no apparent reason why it should be only a few millimetres in length, as is so often taught and practised. In other regions of the body an abscess is always freely incised.

The second essential is to avoid an injury to the bloodvessels. The situation of the external and internal carotid must be considered. These arteries occupy a position which is posterior and external to the abscess. It should therefore be made a rule to direct the point and the blade of the knife towards the middle line, and to cut from without inwards. The knife should never be inserted further than three-quarters of an inch. In order to avoid unnecessary injury to adjacent parts, the operator who is not provided with a steady hand and a short, slender knife should not fail to adopt the old safeguard of ensheathing a portion of the blade in

plaster. The knife, having been inserted at the site of election, is carried with a to-and-fro movement towards the middle line. The cut should run parallel to and just above the edge of the anterior faucial pillar, on no account cutting through the latter.

It has often been recommended to make the incision perpendicular to, and cutting through the edge of, the palatal arch. The advantage claimed for this method is that the divided palatal muscles, by their contraction, tend to keep the wound open, and thereby insure better drainage.

I am an opponent of this method, because, in spite of its adoption, the edges of the wound do sometimes coalesce, and because the cross-section of the muscle-fibres must interfere with the action of the soft palate, a circumstance deserving of special consideration in the case of singers.

The incision is usually very painful; it is therefore important to have the patient's head held by an assistant, as he will be otherwise certain to jerk it backwards at the crucial moment. Painting the surface with cocaine only lengthens the operation, and is of very little help to the patient; every touch of the brush is hardly less painful than the actual incision.

The incision is fraught with two possibilities: either pus at once pours from the wound, or else blood alone makes its appearance. In both cases a blunt instrument, preferably a closed sinus forceps, should now be inserted deeply into the wound. Two objects may be attained by doing this. In the first place, it is desired to rupture the brittle septa of connective tissue which usually subdivide the abscess cavity, and so insure better drainage of the latter. In the second

place, should the incision have failed to open the abscess, it is desired by this means to pierce the decaying tissue by which it is still separated from the base of the wound.

After the forceps has been inserted, it is a common practice to force the blades apart, and attempt in this manner to enlarge the wound; such a proceeding is, however, quite unnecessary, because the desired objects may be fully attained by inserting the forceps for a greater or lesser depth, and then slightly separating the blades. In this manner it is possible to reach even a deeply situated abscess without risking an injury to the bloodvessels. This proceeding is also very painful.

If the operation has not been successful, it is necessary to wait and order the patient to continue the hot applications in the manner above described. On the next day it is necessary to reopen the edges of the first incision, or else a second incision should be attempted in a slightly different position. To the great distress of the patient this cruel sequence of events may continue for several days, until finally the abscess bursts and the patient experiences the long-sought-for relief.

In some cases the initial relief which the patient experiences is quickly replaced by a return of all the symptoms; this is due to the fact that the edges of the incision have become adherent, in this way causing retention of the pus. This may not occur until the second or third day after the operation. The patient should therefore always be seen on the two following days, and if the edges of the wound are not found

distinctly gaping, they should be separated with the sinus forceps. The patient should be directed to continue the hot applications for a little while.

If the after-treatment just suggested be carried out, the affection will soon have quite run its course. The pain quickly disappears, the rigidity of the jaw improves, and the patient again takes his normal nourishment.

As regards the taking of nourishment during the disease, the following remarks may appropriately be added: The dysphagia is usually so intense that even at the commencement of the affection the patient experiences great difficulty in swallowing fluids, and solid food is entirely avoided. It is, however, very essential that the patient take plenty of nourishment, because he is already weakened by pain and loss of sleep. Cold lessens the dysphagia, for which reason iced milk may be suitably ordered, and will be found soothing by the patient. At the same time, the latter should continue the use of the hot tea, as above described.

After the abscess has been opened, the patient may take anything preferred in the nature of soft foods and cool drinks.

Some people are predisposed to frequent attacks of phlegmonous angina. In such cases it is usually impossible to discover any characteristic changes to account for this during the intervals between the attacks. It is therefore not possible to utilize these intervals for the institution of any prophylactic treatment.

It is, however, advisable to remove the tonsils, or at least to slit up or cauterize any niches or narrow recesses which can be discovered in these structures. Any suppurative condition in the nose, pharynx, or mouth (dental caries) which might possibly be a source of infection should also be suitably treated.

Finally, it is to be noted that this affection is met with more frequently at certain times. It is not yet known to what causes, meteorological or otherwise, this fact should be attributed.

To the second group of those pharyngeal affections which are accompanied by painful deglutition without ulceration or the appearance of white spots, belong those affections which are termed **'superficial catarrhal inflammations.'**

The objective pathological changes which accompany these affections are not always very striking; in most cases a slight swelling and hyperæmia of the mucous membrane is all that may be perceived. It must not, however, be presumed that the subjective symptoms which accompany these objective changes are also of such a slight intensity. On the contrary, there is often a great disproportion between the subjective and the objective symptoms.

The insignificance of the objective symptoms necessitates our making careful and repeated examination of the affected parts, and sparing no trouble to ascertain the cause and the situation of the patient's complaint. Even after an exhaustive examination the initial treatment may have to be more or less experimental.

From these general considerations, it is evident that

much experience is necessary before these cases can be properly estimated. The patience of both the doctor and his patient is often strained to the uttermost in the treatment of those cases in which the subjective symptoms are of a persistent kind, though the objective changes are either slight or absent. It is needless to state that the general practitioner, who is, of course, bound to generalize in his treatment of such cases, does not meet with much success.

For these reasons it is unnecessary to enter here into a very extensive account of these affections ; a few practical hints may, however, appropriately be given.

In so far as catarrhal inflammations are responsible for the production of unpleasant sensations other than pain (scratching, burning, the feeling of a foreign body, etc.), they will be discussed at greater length in a following section dealing with ' pharyngeal catarrh.'

Two forms of superficial catarrhal inflammation are commonly met with—in one of these the inflammation is very acute; in the other it is slight, but shows a tendency to become chronic.

Either of these forms may be located on the tonsils and surrounding parts (palate, palatal arches, and uvula), or on the posterior pharyngeal wall. In some cases all these parts are affected simultaneously.

The inflammation is easy to recognize when its onset is very acute. There is well-marked but ill-defined pain on swallowing, fever with its accompaniments, and intense hyperæmia and swelling of all parts of the throat.

" If the objective signs are limited to the tonsils and

their surroundings, the condition is called 'acute tonsillitis,' or 'simple catarrhal angina.'

When, on the other hand, the posterior pharyngeal wall is principally affected, the condition is known as 'acute pharyngitis,' or 'acute pharyngeal catarrh.'

This disease is also discussed at greater length further on.

These affections are of common occurrence both in children and in adults. They are caused by chills, inhalation of smoke or dust, overuse of the voice by speaking or singing, sleeping with the mouth open, alcoholic abuse, etc.

It should here be mentioned that painful conditions of the pharynx may also be caused by exudative erythema, lichen, medicinal eruptions, etc. The pharynx is also very often affected in the initial stage of many of the acute exanthemata (scarlet fever, smallpox, chicken-pox, measles), a fact which is well known to the general practitioner. The picture which is presented by these latter symptomatic anginas cannot be differentiated with probability, much less with certainty, from that presented by the idiopathic anginas.

None of these conditions lasts longer than a few days; the treatment adopted should be similar to that described for angina lacunaris (p. 83):

A few remarks may here be inserted about a condition which sometimes causes pain in the throat, but which is usually overlooked, either through inexperience or lack of observation.

If we meet a young individual at the end of the first or at the beginning of the second decade of life who complains of pain in the throat, and whose pharynx appears quite normal, we should not neglect to examine the region of the wisdom-teeth,

because the pain caused by the eruption of one of these teeth is often referred to the throat. One glance at the region in question will make matters clear, and the diagnosis may be confirmed by palpation or the use of a probe. The condition may be rapidly relieved by incising the inflamed mucous membrane lying over the tooth.

The diagnosis is more difficult in those cases in which the inflammation is of a chronic type, and has only attacked certain parts of the pharynx.

There are not many reliable symptoms at our disposal when seeking to determine the existence of a localized inflammation. These include—

1. The patient's statements regarding the intensity and the position of the pain.

2. The appearance presented by the mucous membrane.

The first of these symptoms is a very unreliable one, because we have no absolute means of measuring the pain, and the patient's power of localizing sensations in the pharynx is at best a very deficient one.

It is also very difficult to draw conclusions from the appearance of the mucous membrane, especially if the area affected happens to be of limited extent.

Circumscribed chronic inflammation is found most frequently on the posterior pharyngeal wall. It may be limited to single granules (pharyngitis granulosa), or to the lateral part of the pharyngeal wall (pharyngitis lateralis).

Further information about these conditions, as well as their treatment, will be found in the section dealing with 'pharyngeal catarrh.'

2. Diseases of the Epi-pharynx.

It has been already stated that dysphagia is not alone a symptom of disease of the meso-pharynx, but that it may also accompany disease of the epi- or hypo-pharynx.

The recognition of this fact is of great importance for the general practitioner, because he must frequently meet with cases in which an examination of the oro-pharynx does not afford the slightest clue as to the nature of the patient's trouble. In such a case the doctor is too prone to arrive at the conclusion that the latter is a hypochondriac, or is suffering from neurasthenia; the most important time for therapeutic measures is thereby lost, and the patient may experience incalculable harm.

Deep, extensive, and even dangerous diseases may run their course in the epi- or hypo-pharynx in cases in which a superficial examination revealed nothing more serious than the existence of dysphagia. It must therefore be emphatically stated, that the doctor is in duty bound to undertake an examination with the mirror in every case in which a patient complains of dysphagia (its persistency is more important than its intensity), when no prominent cause for this symptom is to be found in the oro-pharynx; he may not in these cases content himself with such a diagnosis as 'pharyngeal catarrh' or neurasthenia.

A detailed account will not, of course, be given here of all those affections which may be responsible for the production of an apparently inexplicable dysphagia,

because both the diagnosis and the treatment of these affections are entirely matters for the specialist. It must suffice for the general practitioner to have some knowledge of the most frequent of these diseases, so that when he is confronted with such cases he may interpret them aright. Particular attention will therefore be paid to the following two important conditions:

In the naso-pharynx a number of diseases are met with which are due to **inflammatory affections of the pharyngeal tonsil.** These affections are quite similar to those which are commonly found attacking the faucial tonsils (tonsillitis catarrhalis, follicularis, lacunaris, diphtheritica, etc.), though their occurrence may be in no way dependent upon an inflammatory condition of these structures. That is to say, the meso-pharynx, and especially the faucial tonsils and the posterior pharyngeal wall, may present a perfectly normal appearance, and the dysphagia may be entirely due to a localized inflammation of the pharyngeal tonsil, which can only be discovered by making an examination of this structure with the naso-pharyngeal mirror. The innumerable cases met with amongst children in which an inexplicable sore throat is accompanied by fever and glandular enlargement are doubtless of this nature. The physician attending the case, on finding that the pharynx is of normal appearance, contents himself with such a diagnosis as 'glandular fever,' 'influenza,' or 'acute nasal catarrh.'

It may serve as an important hint for the doctor that sometimes in these cases increased nasal obstruction and increased nasal discharge (that is to say, the

usual symptoms of acute nasal catarrh) may make their appearance simultaneously with the dysphagia, though the latter may, however, be very slight or even absent. These symptoms may, of course, be accounted for by the enlarged and acutely inflamed condition of the pharyngeal tonsil. Interference with the hearing and a sticking sensation in the ears are also frequently complained of, a circumstance which is not to be wondered at considering the close proximity of the Eustachian orifices.

The treatment is the same as that adopted for similar affections of the faucial tonsils. Syringing or injecting fluids through the nose should be rigorously avoided.

As a prophylactic measure the removal of the pharyngeal tonsil is urgently indicated, because in such cases it is always found to be enlarged, even after the acute attack has subsided.

Gummatous inflammation is the second important naso-pharyngeal affection which will be discussed here. This disease, which shows a special tendency to affect the naso-pharynx, may only be diagnosed by examination with the mirror. The patient is either quite ignorant of a syphilitic infection, or else has long since forgotten all about it; and the doctor who is treating the case, on finding that the oro-pharynx presents a normal appearance, also fails to think of this disease. The patient who complains of slight but persistent dysphagia is therefore subjected to the most diverse and trying forms of treatment. Finally, a posterior rhinoscopic examination is undertaken, and reveals the

existence of a deep, crater-shaped, gummatous ulceration, which heals in a few weeks under suitable local and general treatment. It is a matter of daily experience that this affection, if not recognized and treated in its early stages, is responsible for serious and permanent destructive changes in the naso-pharynx.

The remaining diseases of the naso-pharynx which are accompanied by dysphagia are of comparatively infrequent occurrence; they must, however, receive appropriate consideration. Dysphagia may be caused by any other form of ulceration (**tuberculosis, lupus,** etc.) in the naso-pharynx. If the ulceration be situated on the posterior surface of the soft palate, its existence may be diagnosed by the hyperæmia and swelling which is visible on the anterior surface of this structure.

Rhinoscleroma, when present, is especially liable to affect the naso-pharynx and soft palate. Dysphagia is, however, rarely due to this condition, which is more apt to cause difficulty in swallowing and the sensation that a foreign body exists in the throat.

Tumours in the naso-pharynx are rare. They cause difficulty in swallowing by interfering with the free action of the soft palate. If a posterior rhinoscopic examination be not undertaken, they will probably remain undiscovered until they are large enough to push the soft palate forwards, or to appear on the posterior pharyngeal wall.

Foreign bodies sometimes remain hidden for a considerable time in the naso-pharynx without causing any appreciable symptoms.

Injuries to the naso-pharynx are caused by sharp

foreign bodies (pins, fish-bones, etc.); they often remain unrecognized in spite of the accompanying dysphagia.

3. Diseases of the Hypo-pharynx.

The hypo-pharynx, even more often than the epi-pharynx, is affected by diseases which, at least in their earlier stages, and unless an examination with a mirror be undertaken, may present no other symptom but the accompanying dysphagia.

Commonest among these diseases are those which affect the superior or extrinsic parts of the larynx (epiglottis, aryepiglottic folds, the region of the arytenoid cartilages, and the interarytenoid space).

Dysphagia may be due to simple catarrhal or specific inflammatory affections of these parts; it may further be frequently explained by the presence of a suppurative laryngeal perichondritis, or a retro-pharyngeal abscess situated near the entrance to the larynx.

It is clear that all these affections, if recognized in time, may be easily and effectually treated, whilst otherwise they may have serious and even dangerous results.

Dysphagia may be also caused by inflammatory œdema in this region. This may be due to some local cause which impedes the venous circulation (tumours of the neck, mediastinal swellings, heart disease, etc.), or be dependent upon some general disease, such as kidney disease, etc.

Tubercular and syphilitic ulcerations and infiltrations are very commonly found affecting the superior parts

of the larynx. The only subjective symptoms which accompany these affections in their earlier stages are dysphagia, hoarseness, and some respiratory embarrassment.

They may occur in people who are otherwise quite healthy, and, like those already mentioned, may be easily cured if suitable treatment be adopted in their early stages; on the other hand, if overlooked and neglected, they may have serious, if not fatal, consequences.

In cases of carcinoma of the larynx dysphagia is not often a prominent symptom. This may be explained by the fact that the disease usually arises within the larynx, and therefore hoarseness, and not dysphagia, is its earliest and most pronounced symptom. This will be more fully alluded to in the section dealing with diseases of the larynx.

Dysphagia may, of course, be also due to diseases of the œsophagus. Mention shall, however, only be made here of new growths which are situated at its pharyngeal orifice. The only early manifestation of the presence of such a growth may be difficulty in swallowing, and a certain diagnosis can only be arrived at by making a laryngoscopic or an œsophagoscopic examination.

A further consideration of the œsophageal diseases which are accompanied by dysphagia would be out of place here, but it is clear that a thorough examination of this organ should be undertaken in all those cases in which this symptom cannot be satisfactorily explained by the pharyngeal and laryngeal examination.

When examining the hypo-pharynx, it should not be omitted to carefully inspect the base of the tongue, as diseases of this region are a frequent cause of dysphagia. Of special interest in this respect is inflammation of the lingual tonsil, an affection which sometimes occurs in people of a gouty or rheumatic diathesis. Other diseases of this region which cause dysphagia are pharyngeal mycosis, secondary and tertiary syphilitic lesions, and malignant neoplasms. These affections can usually only be diagnosed by the aid of a laryngeal mirror.

Patients are often unable to distinguish between difficult and painful deglutition. The former of these conditions may be due to functional disturbance of either a motor or a sensory nerve.

These disturbances, which are often the earliest indication of some serious distant trouble (aneurism, diseases of the central nervous system, etc.), can only be diagnosed by the use of a probe and a laryngeal mirror.

A reference must finally be made to those cases of dysphagia which are due to the presence of a foreign body in the hypo-pharynx. Such patients are usually, though not always, aware of the cause of their trouble.

In examining such a case, it is of the greatest importance that no digital or instrumental manipulation be undertaken until after the parts have been carefully inspected with the laryngeal mirror. If this precaution be neglected, the foreign body (fish-bone, bone splinter, etc.) may be easily driven still deeper into the tissues, or cause fresh injury to the surrounding parts;

further, if the foreign body is fixed, it may become free, and subsequently attain a deeper position in the air or food passages. To the indiscriminate introduction of instruments must be ascribed the fact that many insignificant cases of foreign bodies in the pharynx are converted into really dangerous conditions. It is hardly necessary to add that the above rule does not apply to those cases in which the laryngeal aperture becomes suddenly obstructed by a large blunt body—as, for example, a piece of meat. In such cases a quick and skilful removal of the obstruction may be effective in saving life.

B.—So-called and Real Pharyngeal Catarrh.

I. So-called Pharyngeal Catarrh.

In the whole nomenclature of disease it would be difficult to find an expression which, both by the laity and the general practitioner, is more commonly misused than that of 'pharyngeal catarrh.'

Every sensation in the region of the throat, every persistent cough, every increase of secretion—in short, every abnormal condition in this region—is diagnosed, treated, and—since such a condition is almost always considered incurable—borne with resignation, under the firm impression that it is a 'pharyngeal catarrh.'

People have now got such a firm hold on this expression that they apply it indiscriminately to every affection which is accompanied by hawking; indeed, they are not always content with using it to diagnose

the cause of their trouble, but may even mention it to the doctor as one of their symptoms. As a result of this, it is often very difficult to ascertain the patient's actual complaint, because, when questioned, he repeatedly asserts that he is suffering from 'pharyngeal catarrh.'

To all appearances this extraordinary confusion of ideas may be primarily attributed to three facts: In the first place, only a few years have elapsed since a proper appreciation of rhinoscopy and laryngoscopy has enabled us to extend our knowledge of the pathology of the nose and throat. In the second place, as is well known, pour ower of localizing sensations in these parts is badly developed. As an example of this, it may be stated that painful sensations arising at the upper part of the larynx are referred to the palate, and those at the base of the tongue to the naso-pharynx. In many cases we are, indeed, quite powerless to localize painful sensations in these regions. But the third and most important of these facts is due to the circumstance that the pharynx has to serve as a common passage, not alone for the secretion coming from the lungs, bronchi, trachea, and nose, but also for the gases and fluids coming from the œsophagus.

An endeavour will now be made to consider systematically all those conditions which are so often erroneously diagnosed as pharyngeal catarrh.

This is rendered necessary by the fact that none of these affections can be suitably treated unless its nature be clearly understood.

Hawking, with its accompanying expectoration, is

one of the commonest of those conditions which, both by patients and their medical advisers, are diagnosed as pharyngeal catarrh.

Before hawking and expectoration may in any sense be considered as symptoms of pharyngeal catarrh, it should first be determined whether the secretion expectorated by the patient is really of a mucous or mucopurulent character. There are many patients in whom these symptoms are entirely dependent upon an excessive salivary secretion, though they are commonly ascribed to a 'pharyngeal catarrh.' It is important to note that this affection, which may be either idiopathic or symptomatic, has never any relation to real pharyngeal catarrh.

It should next be noted that the expectoration, which is commonly considered such an important symptom of pharyngeal catarrh, is secreted, not, as is generally believed, in the pharynx, but rather in the nose or the deeper respiratory passages.

Let us first consider the secretion coming from the nose.

The nasal secretion may either be discharged anteriorly, or else flow backwards and reach the nasopharynx. No abnormal sensation should, however, result as long as the quantity and the quality of the secretion and the configuration of the interior of the nose are normal.

When, however, these conditions are otherwise abnormal, pharyngeal sensations are very apt to result.

Prominent in this respect are affections causing nasal obstruction (hypertrophic rhinitis, polypi, septal

deflections, etc.). In such cases the discharge will, for the most part, flow backwards and cause the patient discomfort.

There are many reasons to explain why the nasal affection is overlooked in these cases. In the first place it is of very gradual development, and in the second the nasal mucous membrane, in spite of its extreme sensibility in other ways, reacts very slightly to its contact with the altered secretion. In marked cases, however, the patient may himself become aware of the nasal obstruction.

When, in such cases, the nasal secretion reaches the pharynx, it is cooled and dried by the mouth-breathing, which the patient is forced to adopt; this causes an uncomfortable sensation in the pharynx, and the patient's trouble is accordingly diagnosed as 'pharyngeal catarrh.'

It is evident that such a 'pharyngeal catarrh' may be treated for months, or even years, with gargles, paints, etc., without showing even the slightest improvement, though it may be immediately cured by suitably treating the nasal affection. This also explains the fact that 'pharyngeal catarrh' so often shows a temporary improvement when the patient goes to the seaside or to a higher altitude for change of air. Such a change exerts a very beneficial effect upon the nasal mucous membrane, and the patient is in consequence led to believe that there is an improvement in his 'pharyngeal catarrh.'

It is possible that pathological changes in the nose may by direct extension cause an inflammatory con-

dition of the pharyngeal mucous membrane. Such a condition may, of course, be looked upon as a pharyngeal catarrh, but its nasal origin should not be forgotten. This will be further discussed later on.

In some of these cases the secretion coming from the nose is of an extra tenacious consistency, and possesses the property of drying into crusts in the naso- and oro-pharynx (pharyngitis sicca). In such cases the patient's pharyngeal discomfort may be so intense that it almost drives him to despair. This property of the nasal secretion is usually either associated with a suppurative inflammation of the accessory sinuses or with atrophic rhinitis.

The circumstance, however, that such cases are accompanied by pathological alterations of the posterior pharyngeal wall, does not alter the fact that the real focus of disease is again to be sought for in the nose.

A matter must now be considered which is a fertile source of error both for doctors and patients alike. That is, the proper interpretation of the appearance presented by the posterior pharyngeal wall.

The latter is one of the few mucous membranes of the body which may be easily inspected, a fact which may account for the frequency with which its appearance is misinterpreted.

The surface of the normal membrane has a flat, moist, rose-red appearance, and on it may be seen the isolated ramifications of small vessels.

As a matter of fact, an individual is rarely met with whose pharyngeal mucous membrane presents this

normal appearance. The appearances actually met with are of two principal types.

In far the greater number of cases the mucous membrane presents a number of smaller or larger elevations of a gelatinous consistence and a yellowish-grey colour, which are either scattered uniformly upon its surface, or chiefly confined to those parts which lie behind the posterior palatal arches. The mucous membrane surrounding these elevations or granules varies greatly in appearance. Sometimes it has a normal rose-red colour, while at others it looks pale and tendinous, or swollen and congested. More or less congested and tortuous vessels may be frequently seen running between the individual granules.

A patient who presents such an appearance in his pharynx, and who complains of any kind of abnormal sensation in his throat, is commonly diagnosed as suffering from granular pharyngitis.

To avoid making this mistake, the following facts should be remembered :

Some authors (Iwanoff, Levinstein) distinguish two types of pharyngeal granules. As a result of histological examination, they differentiate those granules which are present in cases of pharyngitis, and which they term 'inflammatory' granules, from those which occur in children with adenoids, which they term 'adenoid' granules.

This division, in spite of its histological basis, does not appear to me to be clinically free from objection.

These granules, for example, occur with equal

frequency in children and in adults, in peasants and in the inhabitants of towns, in smokers and in non-smokers. A pharyngeal wall, presenting the appearances which have just been described, may be seen in the throats of thousands of individuals who have never in their lives suffered from any sort of pharyngeal affection. Further, a person who had at one time exhibited a smooth pharyngeal wall has never been known to acquire granules as a result of any harmful influence to which his pharynx was subsequently exposed, or even after repeated attacks of pharyngitis.

These granules are now considered to be nothing more or less than small nodules of adenoid tissue lying in the mucous membrane. They are sometimes pierced by strong connective-tissue fibres, and the epithelium covering them may at isolated areas be thinned or even quite absent (Saalfeld, Chiari, and others). They should be considered just as much a part of the pharyngeal lymphatic ring as the isolated lymphatic follicles which are found scattered everywhere on the palatal arches, the aryepiglottic folds, and the lingual surface of the epiglottis. The extent of their development varies in individual cases. Their presence does not in the least point to the existence of a pharyngeal catarrh, or, better stated, they cannot in themselves be considered as the cause of the patient's trouble. They may not, as is so often stated, be looked upon as the result of repeated attacks of pharyngeal catarrh or of the excessive use of tobacco. They simply represent localized lymphatic-

tissue hypertrophies, which in themselves are perfectly harmless, and the development of which in any case corresponds to the predisposition of the individual. In the most marked cases they may (as described by Chiari) have a certain pathological importance. This is dependent on the fact that, after an excessive emigration of round cells from the follicles, slight physiological erosions of their epithelial covering (that is to say, open pathways for frequent infection) are produced.

When speaking, therefore, of pharyngitis granulosa, it should be remembered that such a condition is neither dependent on the number or the extent of the granules present, and also that a granular mucous membrane does not in itself represent a condition resulting from pharyngitis, but rather a physiological attribute of the individual. Further, if it is desired to distinguish between two types of granules, a distinction should not be made between 'adenoid' and 'inflammatory' granules, but between 'inflammatory' and 'non-inflammatory' adenoid granules.

It has been already stated that a mucous membrane which is studded with these nodules is more prone to suffer an infection than one which is smooth and on which the lymphatic follicles are less visible, and that the erosions which are commonly found on the former offer a *punctum minoris resistentiæ* through which infection may occur.

By 'pharyngitis granulosa' I understand, therefore, a catarrhal inflammation of the pharyngeal mucous membrane in an individual whose pharynx is naturally

disposed to granular formation. The existence of granules on the posterior pharyngeal wall is in itself no indication of the existence of pharyngeal catarrh, or, indeed, of any other affection.

What has been said about pharyngitis granulosa applies equally to pharyngitis lateralis, which is an inflammation of the lymph-follicles contained in the lateral pharyngeal bands.

The second type of posterior pharyngeal wall is represented by those cases in which the mucous membrane has a glazed, dark red, dry appearance. A hasty glance at such a pharynx suffices to convince the general practitioner that the patient has a 'chronic pharyngeal catarrh' or a 'pharyngitis sicca,' and the latter is then subjected to a prolonged and unpleasant treatment with paints, etc. This error in diagnosis and treatment might be easily avoided if the doctor were only aware that what he had considered to be the anterior surface of the mucous membrane was in reality nothing of the sort, but simply a thin, dried, glassy layer of muco-purulent or serous fluid lying upon its anterior surface.

In such cases the glazed layer of mucus has not been secreted by the pharyngeal mucous glands, but has flowed backwards from a diseased nasal cavity, and then, owing to its pathological consistency, has dried upon the posterior pharyngeal wall. The primary disease lies in the nose, and not in the pharynx, and it is only by treating the former that the pharyngeal condition can be cured.

This condition of the posterior pharyngeal wall is

usually accompanied by unpleasant sensations in the throat; as such may be mentioned an intense dry or burning sensation, the sensation of a foreign body, or a troublesome desire to hawk.

This appearance of the posterior pharyngeal wall is usually secondary to one of two nasal diseases, either of which may run a latent course and remain undiagnosed for years. It is either due to an atrophic affection of the nasal mucous membrane (rhinitis atropica, ozæna), which is accompanied by the formation of a tenacious secretion, or else it is due to a suppurative inflammation of one of the accessory sinuses, most commonly of either the sphenoidal sinus or the posterior ethmoidal cells.

The posterior pharyngeal wall may also occasionally present this appearance in cases of hypertrophic rhinitis.

In such cases the pharyngeal affection may be readily cured, usually without the adoption of any local pharyngeal treatment, as soon as the nasal origin of the muco-purulent secretion has been discovered and treated.

The posterior pharyngeal wall is capable of presenting many other variations in appearance besides the two types above described—variations, moreover, to which the beginner is all too ready to attach a pathological significance, and which simply represent normal changes in the colour, smoothness, or lustre of the mucous membrane. We meet with pale and red, regular and irregular, dry and moist pharyngeal surfaces, but we are unable to state that one of these

conditions is normal and the other pathological, or that any one of them is responsible for the patient's trouble.

The normal appearance varies within wide limits, and it is quite impossible to diagnose pharyngeal catarrh by simply inspecting the posterior pharyngeal wall.

The real focus of disease may only be determined by making an examination of the surrounding organs, especially of the nose.

The secretion found in the pharynx in these cases may proceed not alone from the nose or its accessory sinuses, but also from the deeper respiratory passages. In the latter case the secretion does not reach the pharynx, as is the case with the nasal secretion, by virtue of its own weight, but as a result of the coughing or hawking movements executed by the patient.

This secretion may proceed either from the larynx, the trachea, or the bronchial tubes.

It is, I believe, not difficult to explain why these patients are usually so positive that the secretion comes from the pharynx. As long as the mucus is present in a soft, loose condition in one of the bronchi, or in the lower portion of the trachea, it retains the body temperature, and does not cause any symptom of irritation. When, however, it is brought by the action of the ciliated epithelium to the lower part of the larynx (which, as is well known, is much more sensitive than the trachea), it is cooled by the respiratory air, as a result of which it acts as a foreign body lying below the vocal cords, and is more or less violently expelled by the expiratory air-current. The

patient, who is not in a position to anatomically differentiate his pharynx from his larynx, and whose power of localizing sensations in these regions is at best a poor one, naturally comes to the conclusion that the lumps of mucus which he expectorates are derived from that region where he first becomes aware of their existence—that is to say, from his pharynx—and that his trouble is due to a chronic pharyngeal catarrh.

Such patients are positive that their lungs and larynx are in a normal condition, because they do not experience the smallest trouble in these organs, and because the collections of mucus are felt to take place almost exclusively in the pharynx.

The doctor, if he be not acquainted with these relations, is very often inclined to accommodate himself to the statements of his patient, especially if he is unable to find any objective signs of a pulmonary or bronchial affection. And yet we know how often acute as well as chronic bronchial catarrhs, and even early tubercular lesions, may exist without any other objective symptom than an alteration in the amount and quality of the mucus secreted, and without any other subjective symptoms than the more or less troublesome hawking, coughing, and expectoration which the patient employs to remove this secretion. The sensations caused by the latter are referred to the pharynx, which part is therefore held responsible for the trouble. In this manner every troublesome cough and every affection by which the patient finds himself obliged to hawk is pronounced to be a pharyngeal catarrh. In these cases also the supposed

pharyngeal catarrh may, of course, only be improved by the adoption of suitable treatment for the pulmonary or bronchial affection.

. Affections which are accompanied by phonatory disturbances form another group of those conditions which are commonly, but erroneously, diagnosed as pharyngeal catarrh.

How often in everyday life do we not meet with individuals who state, when questioned, that they suffer from pharyngeal catarrh, this convenient diagnosis having been established either by themselves, their friends, or their family doctor!

How often are we not consulted by singers of both sexes who for weeks, months, or years, have noticed some phonatory disturbance while singing, and who, either on their own account or upon the assertion of their teacher, ascribe this disturbance to a pharyngeal catarrh! The pharynx has been painted, gargles have been used, but to their great surprise the vocal disturbance still persists.

To avoid such errors in diagnosis, one rule should be carefully borne in mind: If a patient complains of hoarseness (dysphonia, aphonia), some disease of the voice-producing portion of his larynx—including its muscular and nervous mechanism—must be considered to exist.

A temporary disturbance of the voice may occur in cases of bronchial catarrh by the adherence of mucus to the vocal cords, or a more permanent disturbance may result from various abnormal anatomical relations in the mouth, pharynx, or nose; hoarseness is, how-

ever, not a suitable name for the latter. For us, the rule should nevertheless remain unaltered, that diseases which are accompanied by the condition commonly known as hoarseness, have their origin, not in the pharynx, but in the larynx.

From this it will be understood that there are a large number of diseases which, in spite of their laryngeal origin, are erroneously diagnosed as 'pharyngeal catarrh.'

Almost all diseases of the larynx, from acute and chronic catarrh down to simple and malignant tumours, or paralysis of the cords, may be accompanied by hoarseness; and it is a matter of daily experience that, unless an examination with the laryngeal mirror be undertaken, almost every one of these affections will be mistaken for 'pharyngeal catarrh.'

Every experienced laryngologist will confirm this statement, and be able to give instances of patients who have come to him after a prolonged treatment for an affection which either they themselves or their family doctor has diagnosed as 'pharyngeal catarrh,' and in whom a laryngoscopic examination has revealed most serious disease of the larynx.

A few examples may serve to make this clear. Hoarseness is often the only symptom which accompanies an incipient malignant growth in the larynx; in other cases it may be due to vocal paralysis, which latter may be secondary to an aortic aneurism, heart disease (mitral insufficiency), or be an early manifestation of some serious central nervous disease (tabes, syringomyelia, etc.).

The suggestion that the patient has a pharyngeal catarrh may in these cases be responsible for a neglect of the primary disease, as a result of which the latter may be only diagnosed when it has made serious progress—if, indeed, it has not progressed too far.

A description will now be given of those diseases which, though situated in the pharynx, are not in any way connected with pharyngeal catarrh. It is an extraordinary fact that such cases, even when presenting the most striking and characteristic symptoms, which are of anything but a catarrhal nature, are yet frequently diagnosed as 'pharyngeal catarrh.'

No object would be served in giving an exhaustive account of all these diseases. An endeavour will rather be made to give a short description of those which are of most frequent occurrence.

As such may be mentioned all forms of inflammation of the throat (angina follicularis, lacunaris, and phlegmonosa), secondary and tertiary syphilitic manifestations, tubercular affections, mycotic diseases, and paræsthenia. This latter may occur secondary to debilitating diseases (chlorosis, anæmia, etc.) during the climacteric, as a manifestation of hysteria, or, finally, in patients suffering from diabetes or gout. As regards the latter, it is necessary to add that changes of a catarrhal character may occasionally accompany this affection—not, indeed, great enough to cause the patient any trouble, but, nevertheless, sufficiently characteristic to warrant the title 'pharyngeal catarrh.'

Briefly stated, the doctor considers he is justified in ascribing his patient's trouble to a harmless pharyngeal

catarrh in all those cases in which pain or any other foreign sensation is complained of in the throat.

A further phenomenon, the cause of which is often erroneously sought for in the pharynx, is *fœtor ex ore*.

To avoid making such a mistake it should be remembered that a pharyngeal catarrh can of itself never be responsible for the production of foul breath. It may, of course, occur that a fetor is produced by the presence in the pharynx of decomposing secretion or crusts, but it should be remembered that this secretion does not originate in the pharynx, but rather in the nose or its accessory sinuses, and that the fetor cannot therefore be removed simply by treating the pharynx.

The fetor is noticed both by the patient and those about him, its intensity being greater at certain times than at others. It is due more often than is generally believed to the presence of tonsillar concretions; these are usually found in the depressions of the faucial tonsils, though the lingual or pharyngeal tonsil may also be affected. They consist of cast-off epithelial cells, various bacteria detritus, and the decomposing remains of food. They are often quite hidden from view, and in such cases may only be discovered and removed by repeated and careful examination with the mirror and probe. This affection is difficult to treat, as the deposits tend to re-form repeatedly in the deep and inaccessible depressions of the tonsils.

Oral fetor may in far the greater number of cases be attributed to the presence of carious teeth. Even though these structures are apparently kept clean, the fetor may be due to the presence of decomposing food in

narrow and inaccessible tooth cavities. It may further be sometimes due to diseases of the nose (ozæna, suppuration in the accessory sinuses, the presence of carious bone, foreign bodies, etc.), gastric diseases, diabetes, nephritis, or fetid disease of the lungs, but it is never a result of pharyngeal catarrh.

Before concluding this section, it may be remarked that hyperæsthesia of the pharynx cannot of itself be considered an indication of pharyngeal catarrh. This hyperæsthesia is found in people who show a marked inclination to retch—a peculiarity which must be attributed to an individual predisposition, and not to the existence of pharyngeal catarrh. Such people tend to retch if the mouth is widely opened, if the tongue is protruded, or if gargling movements are executed; it is therefore not surprising that they are bothered by this reflex when an attempt is made to wash the teeth. This tendency is more marked at certain times than at others, doubtless depending on the nervous state of the patient.

A few remarks must also be made about the affection known as 'vomitus matutinus,' which occurs in drunkards. Such individuals, besides suffering from a chronic catarrh of the upper respiratory passages, are usually of a very neurasthenic disposition. To the latter fact, as well as to his general condition, must be attributed the patient's attacks of morning sickness. Local treatment of the pharynx is therefore in itself powerless to cure this affection.

A somewhat similar condition of affairs prevails in the case of those people who are unable to undergo a

pharyngoscopic or laryngoscopic examination owing to the tendency to vomit, which is thereby excited. Such individuals usually express the firm conviction that their increased sensibility is entirely dependent on a chronic pharyngeal catarrh. That such a statement is not correct is proved by the fact that a short time afterwards, as soon as he has ceased to be in dread of the proceeding, or in the hands of a more experienced laryngologist, the same patient may easily endure the examination.

It has already been mentioned, in the section dealing with the examination of the pharynx, that in such cases it is of great importance to make sure that the patient does not hold his breath. Even the most irritable individuals may easily display the necessary endurance, if their respiratory movements are continual and they are examined by a steady and a skilful hand.

Hyperæsthesia of the pharynx and increased susceptibility to the retching reflex are in no way characteristic of pharyngeal catarrh.

II. Real Pharyngeal Catarrh.

Those pharyngeal affections which have been mentioned up to this are all of a non-catarrhal character. It now remains to explain the occurrence of real pharyngeal catarrh, and to describe its appearance and treatment.

It is, however, first necessary to consider the anatomical position of the pharynx. By the pharynx is understood that portion of the throat which extends from the base of the skull above to about the level of the cricoid cartilage below.

As already explained, it is divided into a laryngeal part (hypo-pharynx), an oral part (meso-pharynx), and a nasal part (epi-pharynx).

The anterior wall of the pharynx is mainly defective owing to the three large communications which lead from this cavity to the larynx, mouth, and nose, whilst the lateral walls are rendered inconsiderable by the antero-posterior flattening to which they are subjected. It follows, therefore, when dealing with pharyngeal catarrh, that its posterior wall is the only boundary of the pharyngeal cavity which merits much consideration.

Catarrhal inflammation of such parts as the faucial isthmus, the tonsils, the soft palate, or palatal arches, which lie in the immediate neighbourhood of the pharyngeal cavity, are not designated as pharyngeal catarrh, but rather as inflammation of the throat, tonsillitis, angina, etc.

By pharyngeal catarrh we understand, therefore, a catarrhal affection of the posterior pharyngeal wall, the oral portion of which is most often affected, whilst the upper, or naso-pharyngeal portion, stands next in frequency. In the latter region the affection is also known as naso-pharyngeal catarrh (rhino-pharyngitis). Combined forms are frequently met with.

A consideration shall first be made of acute pharyngeal catarrh. In this affection it is not of great importance to determine exactly the limits of the inflamed area, the latter being usually both extensive and ill-defined. Acute catarrhal inflammation of the posterior pharyngeal wall, in the strict sense of the word, is almost always due to the extension of an acute

inflammation of the surrounding parts, especially the tonsils.

When, exceptionally, it does occur alone, it is accompanied by very mild manifestations. The patient experiences a certain sense of discomfort in the throat; he feels himself obliged to make frequent swallowing movements, which latter are accompanied by slight pain or a scratching sensation. The lateral bands of the pharynx and any pharyngeal granules which happen to be present are rendered more distinct.

When diagnosing this affection, the doctor should remember that it is very easy to be deceived by the appearances presented. There are many people in whom the posterior pharyngeal wall (even when it is quite normal and healthy) presents a very hyperæmic and slightly swollen appearance, but who never experience the slightest trouble, and may not be considered as suffering from a catarrhal inflammation of this region. When such a person either examines his own pharynx or has it examined by another, he is very apt to come to the conclusion that he is suffering from a severe inflammation of the throat, the subjective symptoms in such cases being accounted for by suggestion. Any other variation, either of colour or of smoothness, in the appearance of the posterior pharyngeal wall—as, for instance, the existence of granules, visible bloodvessels, or thickened lateral bands—may supply either the doctor or the patient with sufficient ground for establishing the diagnosis of 'pharyngeal catarrh.'

A certain diagnosis of the existence of acute pharyn-

geal catarrh can only be made if the doctor has some idea of the normal appearance of his patient's pharynx. He is then in a position to determine by comparison the significance of any inflammatory changes which may subsequently occur.

There is, however, another point to be borne in mind when diagnosing acute pharyngeal catarrh.

The mere existence of an inflammation in the pharynx (provided always that such is surely present) does not furnish the doctor with sufficient ground for attributing the patient's trouble to simple acute pharyngeal catarrh. Before doing this he must be in a position to exclude any diseased condition of the surrounding organs (tonsils, base of the tongue, upper parts of the larynx, nose, etc.).

Acute pharyngeal catarrh may be due to a great variety of causes, which are for the most part dependent on some form of thermal, chemical, or mechanical irritation. It is well known that chills play a large part in its production. An acute pharyngeal catarrh is also caused in many people by speaking in a cold wind, sleeping with the mouth open, or exposure to moist, foggy air. Further, it may be caused by any kind of dust, by smoke, or by toxic substances (for example, iodine).

Acute pharyngeal catarrh, when due to the extension of an inflammation from the surrounding parts (especially from the pharyngeal and faucial tonsils), does not usually require separate treatment, that adopted being similar to what has been already described when considering these affections (p. 83).

When the inflammation is limited to the posterior

pharyngeal wall, the trouble is so slight that treatment is usually unnecessary.

In those cases, however, in which the symptoms are more intense, and are accompanied by dysphagia or an irritating, burning, or tickling sensation in the throat, it is necessary to adopt some form of treatment. Foremost in this respect is the employment of cold. The patient may be directed to allow small pieces of ice to melt at the back of his tongue. Hot, sharp, or solid foods should be avoided, and every now and then a mouthful of some mucilaginous preparation may be swallowed. As a spray or paint, a 5 per cent. solution of menthol in liquid paraffin may be employed, 1 to 2 per cent. of cocaine being added if the pain is very intense.

As an atomizer, the apparatus of H. v. Schrötter or that of Richardson will be found most satisfactory (Figs. 28, 29).

The spray may be used several times a day. In using it the mouth should be held widely open, the tongue flatly protruded, and the tube of the atomizer held as close to the mouth as possible. The patient should all the while continue to breathe slowly and deeply. It is not superfluous to instruct the patient in the method of using the spray, because, if the tongue is arched, or the tube of the atomizer held too far away, the atomized fluid will not reach the posterior pharyngeal wall, but be deposited on the lips or tongue.

The spray should be at room-temperature. Hot sprays are useless, because they only increase an acute inflammation, and leave behind them a sense

of dryness. Cool sprays, on the other hand, have a loosening and soothing effect.

Bulling's thermo-variator is useful for inhalation purposes if water is used as a vehicle, but it is of no use for thick or oily solutions. Nevertheless, since the temperature of the steam can be regulated, it possesses an advantage over the ordinary steam inhalators.

Gargles, as is well known, are of only problematic worth, since it has been proved that very few patients are dexterous enough to bathe their posterior pharyngeal wall with the fluid used. Great importance is, however, attached by the patients to this form of treatment, so that it is advisable to prescribe a gargle.

In spite of the fact that it is said to be dangerous, I still, as previously stated, always prescribe a 1 to 2 per cent. solution of potassium chlorate, as it often exerts a beneficial influence over the affection. I, however, never omit to warn the patient that the gargle is poisonous, and should not be swallowed.

During the night the patient may apply a warm, moist compress to his throat, as there is no doubt that this causes some subjective alleviation. It is only necessary to see that it does not assume too ungainly proportions.

The last and most important rule in the treatment of all these acute inflammatory affections is that every form of local mechanical treatment (especially the use of paints) should be strictly avoided. Such treatment should be omitted, for the simple reason that it causes the severest irritation, and therefore only tends considerably to increase the inflammation. It is also

responsible for the production of small superficial injuries to the epithelium, and, on the whole, it essentially prolongs the course of the inflammation.

The persistent employment of such mechanical treatment is not uncommonly responsible for the obstinacy displayed by such an acute inflammation, as well as for its gradual transformation into a chronic condition.

A detailed consideration of chronic pharyngeal catarrh will not be undertaken here, because it follows from what has been previously stated that much special experience is necessary for the proper diagnosis and treatment of this affection.

Before attempting to estimate the patient's trouble, the following questions should be considered:

Is it absolutely certain that the troubles complained of are of pharyngeal origin, or are they only erroneously referred to this region by the patient?

If the answer to the first question is in the affirmative, a second arises: Is it a case of primary disease of the pharynx, or is the condition secondary to a diseased condition of one of the neighbouring organs?

If, finally, it is decided that the disease is entirely of pharyngeal origin, it has still to be proved that it is of a catarrhal nature.

It is usually not possible for the general practitioner to decide these questions. To do so, he would require to have mastered the technique of rhinoscopic and laryngoscopic examination, and to possess the mature experience of a specialist. The latter can only arrive at the diagnosis by a process of exclusion, after having

carefully examined the nose and its accessory sinuses, the naso-pharynx, and the deeper parts of the throat; if he has had much experience, he is aware that an isolated chronic pharyngeal catarrh is a very rare occurrence. If, for example, a patient complains of paræsthesia, a systematic exclusion should be made of all those diseases (nervous diseases, chlorosis, diabetes, climacteric disorders, etc.) with which this affection may be associated.

In this manner a patient who has been treated by his family doctor with paints, etc., for months, or even years, may at once obtain the much-sought-for relief.

The specialist may in some instances only be able to diagnose such a case after long observation and repeated examination. When, however, the diagnosis has once been established, the patient may return to the care of his doctor. The posterior pharyngeal wall is, without any specially-acquired technique, easily accessible to both the eye and the hand, so that the general practitioner may himself undertake whatever treatment has been suggested.

An idiopathic chronic catarrh of the posterior pharyngeal wall is a very rare occurrence. Almost all those forms which we have considered are entirely secondary to some disease of the surrounding organs, and their effective treatment is therefore only possible by the treatment of these primary affections. This fact is a further obstacle in the way of the general practitioner as regards his treatment of such cases. An exception may perhaps be made in those cases in which granules are present. If these are responsible

for repeated inflammatory attacks, they should be destroyed, or at least superficially cauterized.

Destruction of the granules is usually undertaken with the galvano-cautery, and their superficial cauterization by touching them with a pearl of silver nitrate fused on the end of a probe.

Too large an area should not be cauterized at one sitting, otherwise the inflammatory reaction (pain and swelling) would be too great. The silver-nitrate stick should on no account be used, because the end may easily become broken off, and cause irreparable damage in the deeper food or respiratory passages.

A similar treatment may be adopted for thickenings of the lateral pharyngeal bands (pharyngitis lateralis). These consist for the most part of collections of adenoid tissue, and may sometimes cause irritable sensations in the throat. This condition should, however, only be diagnosed if the patient was breathing quietly and continually during the examination, for if the breath be held, retching movements are sure to occur; and since these are accompanied by an approach of the lateral pharyngeal walls towards the middle line, a thickening of the lateral pharyngeal bands may be easily simulated.

Cauterization is especially to be recommended in the case of singers who suffer from granular pharyngitis, because their studies are frequently interrupted by the resulting inflammatory attacks. This treatment is absolutely powerless to affect the quality of the voice, though such a belief is prevalent amongst singers.

The inflation of powders is of very little use, because

they are swept away almost immediately, and may hardly be said to come into direct contact with the mucous membrane.

Painting the pharynx may be best performed with a thick piece of cotton-wool wound round the end of a metal wool-carrier (Fig. 30). Whilst applying the paint the mucous membrane should be subjected to gentle massage.

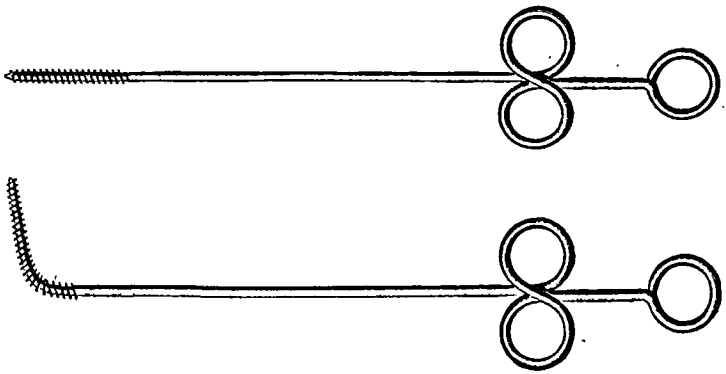


FIG. 30.—WOOL-CARRIERS FOR PAINTING THE PHARYNX.

If there is no special indication for the use of other remedies, a 2 to 6 per cent. solution of silver nitrate will be found most useful for this purpose, as it acts not alone as an astringent, but also as an alterative and anodyne. In those cases in which dryness of the pharyngeal wall is present the following solution of iodized glycerine may be used with advantage.

℞ Iodini ... ... gr.vi.
Pot. iod. ... ... gr.xx.
Glycerini ... ... ad ℥i.
Sig.: To be used for painting the pharynx.

The problematic value of gargles, as well as the use of inhalations and sprays, have already been fully considered.

Change of air exerts a specially favourable influence on chronic pharyngeal catarrh; in the winter months the patient may be recommended to travel to the south, or in the summer-time to make a stay at some seaside resort. It is also frequently found that the patient's trouble is diminished by a sojourn in some sheltered, high-lying district. This beneficial climatic influence is unfortunately only of short duration.

Some attention may with advantage be bestowed upon the regulation of the moisture in the patient's dwelling-rooms. Much comfort will be derived by allowing water to evaporate in a hot room.

Tobacco-smoking, inasmuch as it affects the throat, requires more detailed consideration, because I am of opinion that there is a general tendency to over-estimate the effects of smoking upon the respiratory tract.

Too much importance is specially attributed to smoking as an etiological factor in the production of chronic pharyngeal catarrh.

In seeking to determine the cause of a smoker's trouble, a very superficial examination is usually undertaken. Smoking and pharyngeal catarrh are looked upon as being inseparably united. At the commencement of this section I have described various formations which may be present on a normal posterior pharyngeal wall—formations which in themselves are quite insignificant, and to which an impor-

tance is only attached as a result of inaccurate judgment. When, now, the smoker happens to present such an appearance in his pharynx his fate is sealed: he suffers from smoker's catarrh, to cure which his pernicious habit must be given up. Sometimes the patient will make a futile effort to cure himself by a rigorous abstinence from the use of tobacco, but even then a thorough examination of the nose and throat to determine the real cause of the trouble is not undertaken. In such a case it is simply taken for granted that the pharyngeal catarrh has already progressed too far, and that a renunciation of tobacco is no longer of any avail.

It is not intended to maintain here that smoking is non-injurious as far as the upper respiratory tract is concerned; an attempt is only made to criticize the indiscriminate condemnation of this habit as a causative factor in the production of certain diseased conditions, and the indiscriminate prohibition which is put upon patients in the treatment of these affections.

A differentiation must be made between the effect of smoking in acute and chronic inflammatory affections of the upper respiratory tract.

Smoking should be forbidden in all acute inflammatory affections of the upper air-passages. It is clear, however, that in such a case the patient will himself express no desire to smoke; these affections are usually accompanied by general malaise, fever, and irritative conditions of all sorts, and the patient is aware that smoking will only tend to further irritate his already inflamed throat.

In chronic inflammatory conditions, however, the relations are different.

In the first place, excessive smoking must in itself be considered injurious to the organs of respiration (we are not here concerned with its injurious effects upon other organs, which, perhaps, especially as regards the circulatory organs, are of greater importance than has hitherto been believed), but it should be remembered that this abuse is seldom alone to blame, and that the heavy smoker is usually exposed to other marked injurious influences (night-revelling, shouting and singing in company, alcoholic excess, living in a vitiated atmosphere, and sudden changes of temperature), which are to be held much more responsible for the inflammatory condition of his mucous membrane than the simple smoking of cigars and cigarettes.

In the second place, when we are considering the injurious influences to which a heavy smoker exposes himself, we must take into account other circumstances than the amount of tobacco he smokes and the frequency with which he smokes it.

The passionate smoker, as is known, smokes the moment he awakes in the morning; he smokes in the forenoon and in the afternoon; and he only lays his pipe or his cigar aside when he lies down to rest at night.

The functions of the respiratory mucous membrane are relatively inactive in the morning and at certain other times of the day. Its vascularity and secretory activity are only increased by bodily exercise, the taking of food, or increased respiratory activity.

If, now, the smoke comes into contact with the mucous membrane at a time when it is relatively anæmic and its secretory activity is at a minimum, it is clear that its effect will be that of a strong irritant, because its contact with the mucous membrane is both intimate and prolonged, and because of the concentrated form in which it is absorbed by the scanty secretion present.

The actual conditions, however, when smoking is indulged in are usually different. As a result of the general activity of the body during the day, the lungs are stimulated to increased activity, and there is increased vascularity of the mucous membrane, accompanied by stimulation of its secretory function. When under such conditions smoke comes into contact with the mucous membrane, the latter is not likely to suffer any injurious effects, because, on the one hand, the rich supply of mucus on its surface prevents it from coming into prolonged contact with the smoke, and, on the other, the mucus is quickly swept away, and so the amount of smoke which it absorbs is of minimum proportions.

For these reasons smoking must be considered very injurious to the respiratory mucous membrane when indulged in in the morning, when the stomach is empty, or at any time immediately before a meal; on the other hand, it may be judged relatively harmless when indulged in immediately after a meal or during bodily exercise.

From this it is clear that an otherwise healthy individual, or even a person suffering from a chronic

catarrh of the upper air-passages, may without any hesitation be permitted the enjoyment of smoking a cigar or a pipe after every meal.

Yet a third circumstance has to be considered. Heavy smokers usually suffer from a cough, which is, of course, also attributed to the presence of a pharyngeal catarrh; such a cough, however, should in reality be attributed to the accompanying catarrh of the larynx, trachea, and bronchi.

The smoker may, perhaps, be of opinion that his abuse of tobacco is less responsible for his catarrhal affection than the many other injurious influences mentioned above. He now remarks that his trouble is for a short time alleviated by smoking a cigarette. This may be explained by the fact that the smoke, especially in the morning, loosens the mucus and acts as an expectorant; it may also have a slightly narcotic effect.

It is clear that in such cases the devil is driven away by Beelzebub, and that the irritation which the cigarette exerts upon the sluggish mucous membrane has a particularly harmful effect, in spite of the momentary relief which it brings the patient.

It follows that patients should never be permitted to use tobacco as an expectorant.

C.—Enlargement of the Faucial Tonsils.

By the faucial tonsils—in contra-distinction to the pharyngeal tonsil—we understand those tonsils which are situated on either side of the throat in the niche

between the anterior and posterior pillars of the fauces. They consist of aggregations of adenoid tissue, which are pierced by fine fibrous septa, and enclosed in a delicate connective-tissue capsule.

They vary greatly in size. In children they are usually found disproportionately large, whilst in adults they are small, owing to an involution of the tonsillar tissue which normally takes place shortly before puberty.

The existence of relatively large tonsils should not, as so often happens, be looked upon as a sign of frequently recurring inflammatory attacks; they should rather be considered as a peculiarity, which is perhaps in some way connected with the general lymphatic constitution of the individual. Their presence is usually associated with an enlarged pharyngeal tonsil, and with aggregations of lymphoid tissue on the posterior pharyngeal wall and on the base of the tongue—in short, with a hyperplasia of the whole pharyngeal lymphatic ring. Whether such a hyperplasia is or is not to be considered pathological will not be discussed here; we know that otherwise perfectly healthy children are very often affected with hypertrophy of the tonsils.

If hypertrophy of the tonsils has any connection with the occurrence of inflammatory attacks (and histological examination seems to point to such being the case), the fact must be explained in an exactly opposite manner to that mentioned above. To begin with, an enlarged tonsil exposes a larger surface to any passing infection, or to the action of any mechanical or

thermal irritant. Further, when a tonsil is enlarged, a great part of its superficial surface lies free in the pharynx, whereas in a normal case it lies partly or completely covered in the niche between the palatal arches.

An increase of the connective-tissue substance in the tonsil will, of course, result if this structure be subjected to repeated inflammatory attacks. In comparison, however, to the masses of adenoid tissue of which the tonsil is composed, this increase of connective tissue is very insignificant, and tends rather to disappear than to continue increasing when once the inflammatory attacks have ceased.

Similar conclusions may be drawn from a consideration of the superficial surface of the tonsil. This is of anything but a smooth nature; indeed, it is usually folded, and presents many irregular depressions. Here also cause is often confused with effect. These surface irregularities, which vary in shape, number, and size, readily become filled with decomposing food and septic material of all sorts, a fact which serves to explain the frequency with which their presence is accompanied by acute inflammatory attacks.

The tonsils also vary greatly in shape. They may be round, oval, flat, or elongated. Their consistency increases with the age of the individual—that is to say, with the increase in the amount of adenoid and connective tissue present. The ease with which they are seen when inspected in the usual manner is not alone dependent upon their size; there are two other factors which have to be taken into account.

The first of these is the width of the anterior palatal

arch, which, according as it is broad or narrow, will cover a greater or lesser portion of the tonsil. The second is the method in which the examination is conducted, and is of importance when treatment by tonsillectomy is being considered. If during the examination the child cries or retches (which latter is very liable to happen even in adults if the presence exerted by the spatula be wrongly applied), the palatal arches at once contract, and in doing so expel the tonsil from the niche in which it lies. This leads to an over-estimation of the size of the tonsils, and explains why the specialist, whose examination is conducted on more skilful lines, must so often refuse to remove tonsils, the size of which has been grossly over-estimated by the family doctor.

This brings us to a matter which, as far as the tonsils are concerned, is of greatest interest to the general practitioner, and that is the indications for their removal.

In considering this matter, the following questions should be considered :

What advantages may be expected to follow a removal of the tonsils? and what disadvantages are likely to result?

The answer to these questions is intimately connected with the question of the physiological function of the tonsils. Seeing that the latter question has not yet been satisfactorily decided, and that its purely practical aspect is all that concerns us, we shall only deal with those facts which are already securely established.

It is a well-known fact that pathogenic micro-organisms may penetrate from the surface to the parenchyma of the tonsils, and subsequently produce either a local or a general infection.

An hypothesis exists, which is probably correct, that the tonsillar tissues are to a certain extent capable of antagonizing the action of these micro-organisms. This function may be due either to phagocytosis, to re-absorption, to the action of some ferment, or to the fact that the flow of lymph is directed towards the mouth.

Upon this latter assumption, which may, indeed, be almost considered a fact, many authorities are of opinion that the tonsils should not be removed, owing to the subsequent loss of their protective influence.

A number of objections of a theoretical nature have arisen to counteract this view; their consideration, however, would be out of place here.

It shall only be stated that clinical observation has more than confirmed the fact that individuals with large and uneven tonsils are much more frequently the victims of localized inflammatory attacks than those in whom the tonsils are either absent, or, if present, are small and smooth.

On the other hand, individuals—both children and adults—in whom the assumed protective arrangement afforded by the tonsils is absent, either through predisposition or as a result of artificial removal of these structures, are not in the least degree more sensible to tonsillar infections than other people.

It is a matter of daily experience that children who have suffered from frequent disease of the upper

respiratory passages and tonsillar inflammations of all sorts remain permanently free from these affections from the day on which their tonsils are removed.

Diseases arising by infection from the tonsillar surfaces may be of a general or a local character. As examples of the former may be mentioned meningitis, pyæmia, and diphtheria; it is also possible that tubercle bacilli may in this manner gain an entrance to the organism. Some authorities even state that the increased frequency of appendicitis may be attributed to infection from the tonsillar surfaces.

Local infection of the tonsils is responsible for the various forms of tonsillitis already described. Though the local symptoms are of course the most marked in these cases, there is no doubt that general infection is also present, a fact which is proved, amongst other things, by the accompanying prostration and fever.

Tonsillar infection is also responsible for hypertrophy of the regional lymphatic glands. Daily experience furnishes us with instructive information concerning these glandular hypertrophies. It may, for instance, often be observed that in the same individual hyperplasia of the tonsils and intumescence of the regional lymphatic glands occur simultaneously. Such patients are usually considered to be of a lymphatic or scrofulous disposition. In all these cases, however, it is an indisputable fact that if tonsillectomy (or, as the case may be, removal of adenoids) be performed, the glandular swellings and their accompanying manifestations will sooner or later disappear. It will further be observed that after such treatment the patient does not acquire

any severe illness owing to the loss of the protective influence which was afforded by his tonsils; on the contrary, he thrives rapidly, and remains permanently free from the repeated inflammatory attacks to which he was formerly subjected.

From these considerations we may briefly sum up as follows the attitude to be adopted in considering the protection which the tonsils afford against infection, and with it the general indications for their removal.

Though the fact is recognized that micro-organisms are rendered harmless as soon as they have penetrated the tonsillar parenchyma, we are loath to admit that the tonsils exist for the purpose of rendering innocuous those micro-organisms which have reached the pharynx, and in this way protecting the deeper parts of the digestive and respiratory tracts and the circulatory system. In the first place, clinical experience does not warrant such an assumption, and in the second, both the respiratory and the digestive tracts are themselves so richly endowed with bactericidal properties that they cannot possibly run any extra risk by having to render innocuous those few micro-organisms which in the usual course of events would have been absorbed by the tonsils.

For all these reasons we are, therefore, decidedly of opinion that, as regards general indications, the amputation or removal of enlarged tonsils is strongly to be advised. By this operation, two flat scars are substituted for the extensive and susceptible tonsillar surfaces, and in this manner the possibility of a

systemic infection of tonsillar origin is removed, or at least greatly diminished.

The local indications for the removal of the tonsils will now be considered.

Enlarged tonsils may cause interference with the functions of phonation, deglutition, or respiration.

Respiration is only affected when the tonsils show considerable hypertrophy. It is, however, only in children in whom the hypertrophy is usually extreme, and the upper respiratory passages are relatively narrow, that interference with respiration is an indication for tonsillectomy. Tonsillar hypertrophy is not alone capable of interfering with oral respiration; in extreme cases the naso-pharynx is so encroached upon that nasal respiration is also embarrassed.

It is not intended to consider here the injury which may result from an interference with nasal respiration. This latter is dealt with at length when discussing adenoids.

Interference with the purity and distinctness of the speech may also (especially in children) be due to the presence of enlarged faucial tonsils. The child speaks with a muffled nasal intonation. This unpleasant thickness of the voice may, however, also be observed in adults, especially when singing. There is no doubt that the tonsils should be amputated in such cases. Not the slightest importance should be attached to the unwarranted statement commonly made by singing teachers and others that removal of the tonsils causes a subsequent interference with the resonance of the voice. The daily experience of specialists is

alone sufficient to discredit this statement. It should not, however, be expected that removal of the tonsils will improve a voice of naturally poor quality, or one which has been damaged by disease or faulty tuition. There is also no foundation for the warning frequently given to singers that they are more prone to catch cold after the removal of the tonsils.

Hypertrophy of the tonsils may also cause disturbances of deglutition. This does not imply that there is dysphagia, as is the case in other acute or chronic affections of the tonsils, but rather that an unpleasant sensation exists that a foreign body is present in the throat, and that a hindrance to swallowing is caused in young children owing to the relative narrowness of the passages. A further disturbance is caused in children by the fact that the soft palate is so stretched that it is unable to properly approach the posterior pharyngeal wall. As a result of this, fluids and solid particles of food may easily gain admittance to the naso-pharynx during deglutition.

From what has just been stated about the indications for removing the tonsils, the consideration of this subject may be concluded with the following remarks:

Since it is probable that the number of pathological micro-organisms absorbed varies directly with the extent of free tonsillar surface, it is advisable to remove all tonsils which are large and project prominently between the faucial pillars. This advisability is still greater if the tonsillar surfaces are markedly irregular.

Tonsillectomy may only be considered an easy opera-

tion in those cases in which the tonsils project freely between the faucial pillars during quiet respiration. In order to spare himself unpleasant surprises, the general practitioner is therefore recommended not to attempt the operation himself unless this condition be present.

In order to satisfy an enlightened public, the operation has to be performed without an anæsthetic, and must not last longer than a few moments.

Local anæsthesia is not to be recommended, as it only tends to increase the anxiety and restlessness of the child. Uninflamed tonsils are, moreover, quite insensitive, so that the operation is a painless one. The only unpleasant sensation caused is due to the outward pressure of the tonsillotome.

The child should be held in the manner already described (p. 73). It is quite superfluous to use a mouth-gag. The operator sits ready before the child, with the spatula in his left hand and the tonsillotome in his right. The spatula should be inserted the first moment that the teeth are opened, if only for the fraction of an inch. Strong pressure is now applied towards the base of the tongue. This causes the child to retch, during which act the operator quickly places the tonsillotome in position. The only tonsillotomes suitable for a quick performance of the operation are those of the guillotine pattern (after Fahnenstock-Matthieu, Mackenzie, and others). A description will not be given here of the instruments and methods of operation, which, of course, can only be learnt by practical experience. It need only be stated that the cutting-ring of the instrument should

encircle the tonsil from below and behind, and that during the operation the shaft of the instrument should be directed towards the opposite side (Figs. 31 and 32). This rule is very often neglected, and as a result the instrument slips, and the tonsils are only partially removed. Unless the doctor has had a lot of experience, he should refrain from attempting the operation in all cases in which the tonsils do not show marked and free projection. Otherwise he will be unable to remove the tonsils with the guillotine, and the operation will hardly be to his credit. The removal of deeply embedded tonsils requires both experience in the choice of instruments and an acquired dexterity. In many cases, for example, it may be necessary to separate the anterior pillar of the fauces from the tonsil before the latter can be removed; in other cases the tonsil has to be removed piecemeal with cutting forceps, etc.

No rule can be formulated concerning the amount of tonsillar tissue to be removed. To begin with, the operation can hardly ever be carried out with quietness and precision, and, further, we are unable to make an exact selection of the parts to be pierced by the fork and cut by the knife.

An endeavour should be made to remove so much that the remaining stump no longer projects beyond the pillars of the fauces. This object is attained by pressing the instrument outwards the moment that the tonsils are being cut through. Such pressure should not, however, be too severe, as there is then a danger of wounding the tonsillar artery. This artery

FIG. 31.—WRONG METHOD OF HOLDING THE TONSILLOTOME WHEN REMOVING THE LEFT TONSIL.

FIG. 32.—CORRECT METHOD OF HOLDING THE TONSILLOTOME WHEN REMOVING THE LEFT TONSIL.

enters the tonsillar capsule from the outside, and if it be cut through exactly at its point of entry, the vessel-walls, instead of retracting, will remain gaping. This is especially liable to occur in adults, owing to the increased rigidity of the vessel-walls. The dangerous cases of post-operative hæmorrhage which sometimes occur are simply due to an ignorance of this fact. On the other hand, there are no grounds for anxiety as regards an injury to the carotid, the lingual, the ascending pharyngeal, or the external maxillary arteries.

In opposition to Heuking (St. Petersburg), I am not of opinion that most cases of serious hæmorrhage after this operation are due to an injury to the faucial pillars.

In children, owing to the softness of the vessel-walls, and the readiness with which they collapse and contract, serious hæmorrhage of an origin similar to that just mentioned is hardly ever met with if the operation has been performed with the guillotine.

Hæmorrhage may, however, occasionally occur, due either to an extracapsular injury to the tonsillar artery or to some other cause (for example, hæmophilia). In such cases it is of the utmost importance that the patient remain absolutely quiet. He should not speak or hawk, but simply allow the blood to flow quietly from his mouth. With this object in view, he should sit with his head bent slightly forward; the recumbent posture should not be permitted. Gargling should also be prohibited, owing to the exertions with which it is accompanied and its tendency to wash away any clot which has already formed. The patient

may occasionally take a small piece of ice or a little iced water in his mouth, without, however, at the same time making any attempt to gargle. An ice-bag may be applied externally. Those about the patient should keep quiet, and in this manner encourage the latter to do likewise. As a rule these measures entirely suffice to stop the hæmorrhage.

Should the bleeding continue, digital compression may be tried. In applying this the fingers of one hand exert pressure upon a bit of gauze over the bleeding

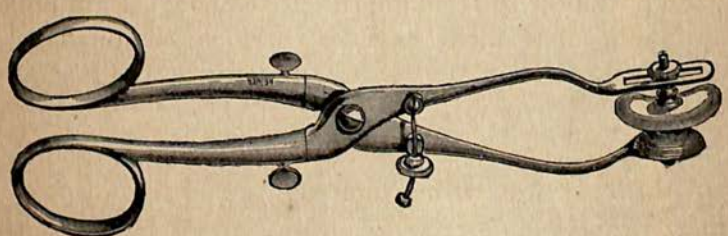


FIG. 33.—TONSILLAR COMPRESSION FORCEPS. (After Störk-Mikulicz.)

area, the other hand being used to exert counter-pressure externally. Both the patient and the doctor will, however, soon tire of this proceeding.

If the Störk-Mikulicz compression forceps (Fig. 33) be at hand, it may be used to continue the compression. Its application should, however, not be too continuous, as it is very painful, and is liable to cause pressure necrosis.

In cases of extreme urgency the hæmorrhage should be treated on general surgical principles (the bleeding vessel may be sought and sutured, or the palatal arches may be clamped or even sewn together).

The operation should on no account be performed upon hæmophiliacs, or upon arteriosclerotic or leukæmic individuals.

Tonsillotomy should not, of course, be undertaken if the tonsils are acutely inflamed, or if any infectious disease has been notified in the immediate neighbourhood of the patient.

The removal, or, better, the amputation of the tonsils to the extent above described, is usually quite sufficient to attain the desired end. It is not a question of trying to extirpate the tonsils, but rather of replacing their extensive and easily-infected surfaces by two smooth resistant scars, and of causing those parts which are not removed to atrophy and recede within the niche between the faucial pillars.

In America enucleation of the tonsils has been extensively advocated, it being claimed that by this means all possibility of subsequent infection is eliminated. This method, however, for the reasons just mentioned, has found no adherent in Europe. Further, such an operation requires a general or local anæsthetic, and must be considered a relatively serious undertaking. There is a great danger of wounding the tonsillar artery in the manner above described, a circumstance which accounts for the large number of deaths from hæmorrhage after this operation which are yearly reported from America.

The treatment to be adopted after tonsillotomy is very simple. On the day of the operation the patient's nourishment should consist of iced milk, while on the following day cool bland foods may be permitted. The

pharynx may be occasionally rinsed out with some weak antiseptic solution; gargling should, however, on no account be attempted during the first few days. Children need not be kept in bed for any length of time except in the rare cases in which febrile symptoms appear. Recovery usually follows within a few days.

It is important that the patient (or the child's mother, as the case may be) should be informed of two facts, the timely announcement of which often spares both the doctor and the patient needless anxiety.

The first of these is the onset of dysphagia, and the second is the appearance on the wounded surface of a deposit which resembles that occurring in diphtheria.

Besides tonsillectomy, treatment with the galvanocautery is also employed by specialists for the purpose of destroying the tonsils. This method, which is quite painless, may be carried out in a few sittings, and is to be recommended in the case of those individuals who are in too great a dread of the knife.

Local applications are powerless to reduce the size of the tonsils.

D.—Adenoids.

By adenoids we mean an enlargement of the pharyngeal tonsil. The term 'polypi' is commonly employed by the general public to denote this condition, a fact which may be explained by the accompanying nasal obstruction and tendency to epistaxis, which symptoms are usually attributed to the presence of nasal polypi.

The pharyngeal tonsil occupies a medial position

on the roof and posterior wall of the naso-pharynx between the two Eustachian orifices, and represents one link of Waldeyer's pharyngeal lymphatic ring. Like the other tonsils, it consists of an aggregation of lymphatic tissue held together by a delicate network of connective tissue. As regards its physiological

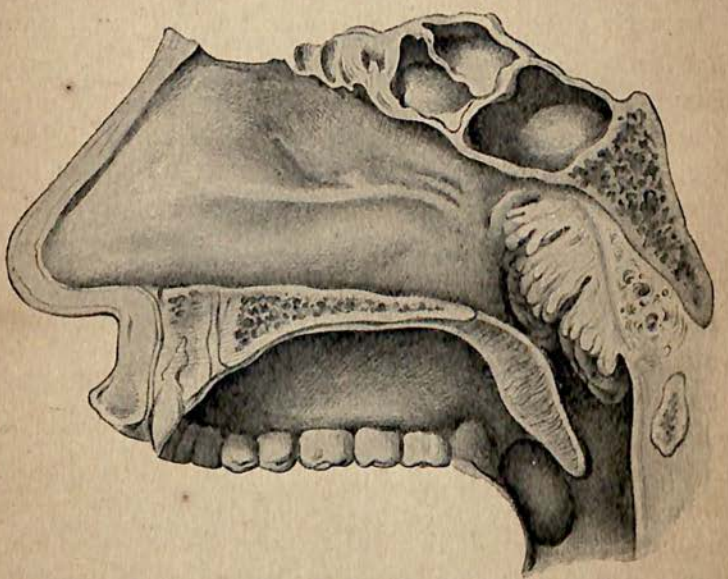


FIG. 34.—SAGITTAL SECTION THROUGH THE NASO-PHARYNX, SHOWING ADENOID VEGETATIONS. (After Zuckerkandl.)

functions, the reader should refer to what has already been stated in this respect about the faucial tonsils.

In children the surface of the pharyngeal tonsil is very irregular, and shows parallel ridges and fissures running in a sagittal direction; in older individuals a smoother surface is presented.

Adenoids show considerable variation in shape. They are usually present as a thick globular mass, which occupies the upper and posterior part of the naso-pharynx. Sometimes isolated processes are found hanging down like stalactites, and at others a smooth pad which is spread out on the roof of the pharynx.

In early childhood the pharyngeal tonsil is so soft that it may be squashed between the fingers; its consistency, however, increases with age, so that in adults it attains considerable solidity. It varies greatly in size, and it is difficult to determine what should be considered physiological, and what pathological. It is usually most pronounced in early childhood, between the second and the seventh years, but the tonsil may be relatively large in children who are both older and younger than this.

With equal frequency we meet with children in whom no indication of the pharyngeal tonsil is found to exist, and adults in whom this structure shows considerable hypertrophy. In most cases a process of involution starts before puberty, as a result of which the tonsil tends gradually to disappear. Besides this, there is a relative increase in the size of the naso-pharynx as age advances.

Adenoids—no matter how large—can never be seen by simply depressing the tongue without the use of a naso-pharyngeal mirror. Their existence may, however, be suspected if there is a marked development of granules on the posterior pharyngeal wall. These granules simply point to an individual predisposition

to the hyperplasia of adenoid tissue, and should not be considered a portion of the pharyngeal tonsil, as is often erroneously done.

The existence of adenoids, or their dimensions, if present, can only be determined by anterior or posterior rhinoscopy, or by palpation with the finger. Results obtained by examination with a probe through the mouth and pharynx (without the use of a naso-pharyngeal mirror) are quite unreliable.

A complete knowledge of the technique of anterior and posterior rhinoscopy is necessary in carrying out the first of the above two methods. Examination with the finger may, however, if necessary, be undertaken by the general practitioner, for which reason it is the only method which will be fully described here. This method is, however, very disagreeable for the patient, and should therefore, if possible, be avoided.

When palpation is being employed, it is of the first importance that the child be securely held. If this precaution be neglected, the examination resolves itself into a scuffle, which leads to indefinite results, and also possibly to bodily injury to the examiner.

The child should be seated on a stool, or a chair which has no support for the back (Stockerl). The assistant, who sits in front of the child, should press its hands down in such a way that by the same pressure the whole body is restrained.

The further fixation is carried out by the examiner (Fig. 35). The latter, who stands close behind the child, has a double duty to perform with his left hand. In the first place, he presses the child's

head forcibly against his own body, and in the second, by the pressure of his left forefinger, he

FIG. 35.—DIGITAL EXAMINATION OF THE NASO-PHARYNX. (Fraenkel's method.)

indents the child's cheek between its separated teeth. This method (Fraenkel's) is exceedingly useful; the child experiences no pain as long as

it keeps its mouth open; as soon, however, as an attempt is made to close the jaws the child bites its own cheek, and is therefore instinctively compelled to

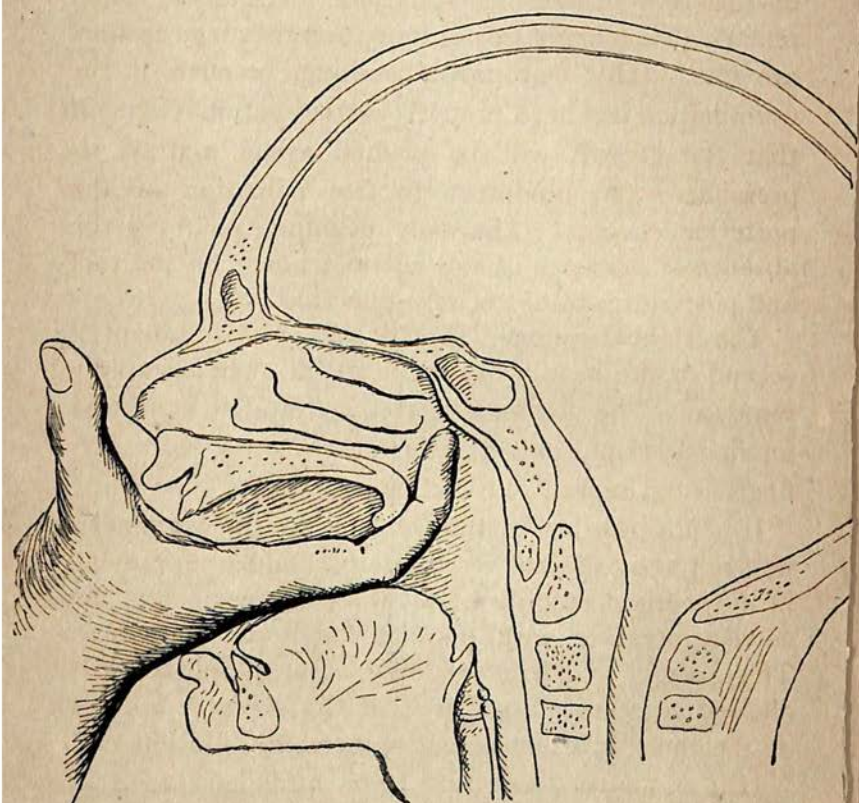


FIG. 36.—PALPATION OF THE NASO-PHARYNX (SCHEMATIC). (After Bruck.)

keep its mouth wide open. As soon as the left forefinger has attained the desired position, the unprotected forefinger of the right hand is introduced behind the soft palate, and feels for the posterior edge of the

nasal septum (Fig. 36). The examiner now directs his finger upwards, and may readily differentiate any adenoid tissue present from the smooth bony hardness of the roof of the naso-pharynx. Beginners often remark after making this examination that 'the choanæ are free.' This fact proves nothing, because, if the examination has been properly carried out, it is evident that the growth will be pushed aside, and so its presence is no hindrance to free palpation of the posterior choanæ. The only deciding point is the absence or presence of soft adenoid tissue on the roof and posterior wall of the naso-pharynx.

The right forefinger should only remain about a second in the naso-pharynx; it should then be rapidly removed. The pressure exerted by the left hand and forefinger should only be relaxed when the right forefinger is again clear of the child's teeth.

It is not possible for the child to bite the examiner's finger if the assistant restrains the child from moving in the method described, and the examiner exerts the correct pressure with his left hand and forefinger. This painful accident can only occur if the child is allowed to wrench itself free, or the pressure exerted on the cheek is insufficient in strength or duration.

If the above precautions are attended to, it is quite unnecessary to use a guard for the finger. Such ungainly instruments have two great disadvantages. In the first place, they increase the anxiety of the child so much that it refuses to open its mouth, though resistance is never offered to the introduction of the unguarded finger; in the second place, it interferes so

greatly with the free movement of the finger that a reliable orientation of the latter in the naso-pharynx is almost impossible. A reasonable and well-brought-up child will usually respond well to a request not to bite the finger.

The examination is carried out in a similar manner in the case of adults, the examiner placing himself at the head of the individual to be examined. It is, of course, usually necessary for the doctor to avail himself of a step, or else have the patient seated extra low, so that he may attain a favourable position.

Just as in the case of the faucial tonsils, the indications for the removal of adenoids in children are divided into general and local.

The general indications are of a similar nature to those already mentioned in connection with the faucial tonsils; they shall therefore not be further discussed here.

In considering the removal of adenoids, the local indications are of far the greatest importance.

In order to realize this it is necessary to consider the injurious results which follow an obstruction to free nasal respiration.

This obstruction results in a diminution in the interchange of gases in the lungs, a fact which may be directly ascribed to the abolition of the physiological resistance caused by normal nasal respiration. The respiratory movements are shorter and more superficial, as a result of which there is a diminution in the intake of oxygen and the discharge of carbon dioxide (Mink).

It is now generally admitted that many of the remote results of an obstructed nasal respiration are directly dependent upon an excess of carbonic acid in the blood; amongst such results may be mentioned headache, restlessness at night, nocturnal enuresis, aprosexia and deficient mental development, inattention at school, loss of appetite, and laryngeal spasm. These manifestations usually disappear immediately the adenoids are removed.

The injurious effects of mouth-breathing upon the mucous membrane of the upper respiratory passages are well known. The three principal functions of the nose —cleansing, warming, and moistening the respiratory air—are rendered ineffective, and as a result the patient is subject to frequent catarrhal inflammations of the larynx and lungs, and to attacks of tonsillitis of varying severity.

These affections cause temporary or permanent inflammatory changes in the regional lymphatic glands of the neck, and also in the intra-thoracic glands.

Rhagades and ulcerations about the lips are commonly found in these cases owing to the dry condition of the mucous membrane.

A rapid decay of the teeth has also been attributed to the sudden changes in the respiratory temperature which accompany mouth-breathing.

It has been proved beyond any doubt that deficient development and skeletal deformities result from a prolonged obstruction to nasal respiration. We cannot here enter into a consideration of the pathology of

these conditions. It need only be noted that the facial skeleton is developed on smaller lines, and that the upper jaw remains contracted; as a result of this the teeth are irregular and overcrowded, and the shape of the hard palate assumes the resemblance to a Gothic arch—that is to say, it appears to be pressed inwards from both sides. The expression and shape of the child's face are so pathognomonic of the affection that the probable diagnosis is usually established at the first glance. The small face, the narrow nose and jaw, the open mouth, and the resulting unintelligent facial expression, all point to the prolonged existence of nasal obstruction—that is to say, to adenoids—because any other cause for persistent nasal obstruction is only met with in the rarest of cases amongst children. It has also been shown that the nasal obstruction resulting from adenoids is responsible for a delay in the development of the thoracic framework, and with it the development of the lungs.

It is further evident that the gustatory and olfactory functions will be influenced, owing to the inability of air to circulate through the nose.

Besides those conditions which result from nasal obstruction, the patient also suffers from the excessive mucous secretion which arises from the surface of the growth. This causes a perpetual irrigation of the nasal mucous membrane, which, apart from the disturbed condition of its circulation, is thereby kept in a state of continual inflammation, and may even remain so after the adenoids have been removed. This hypersecretion also causes inflamma-

tion, eczema, and excoriations at the entrance to the nose, which region is therefore exposed to all sorts of infection (especially erysipelas and tuberculosis [lupus]).

Disturbances of hearing are amongst the most frequent of the local disorders which must be attributed to adenoids. It is certainly no exaggeration to state that this condition is responsible for an overwhelming number of the suppurative middle-ear inflammations met with in children. In the mildest cases the ear is affected by mechanical obstruction of the Eustachian orifice; as a result of this the mucous membrane of the tube becomes swollen, and interferes with the proper ventilation of the tympanic cavity.

Affections of the eye, such as limitations of the field of vision, asthenopia, flimmer scotomata, and ciliary neuralgia, may also indirectly result from the presence of adenoids. Ziehm has attributed these ocular manifestations to passive hyperæmia of the orbital vessels, which latter anastomose freely with the vessels of the pharynx and nose.

To adenoids must finally be attributed a number of phonatory disturbances (rhinolalia clausa, sigmatismus nasalis, stuttering, etc.), troublesome snoring, and in children an interference with the acts of swallowing and sucking. In the case of infants, owing to their inability to breathe through the nose, coughing, vomiting, or septic pneumonia may result from the aspiration of milk.

The general practitioner who waits for the appearance of all or any of the above symptoms before

advising the performance of adenotomy, is making a great mistake. It should rather be his endeavour to prevent their occurrence, since they often lead to irreparable damage to the organism; for this purpose he should be able to recognize the external and apparently unimportant signs which are present during the early development of adenoids, and have the latter removed at once. He should not delay in the hope that the child's symptoms may disappear by a spontaneous involution of the growth. The period of development is a very precious one, and errors which remain uncorrected during the growth of the child will surely revenge themselves in later years. He should not wait for the appearance of an affection of the middle ear, which may have the most far-reaching results, but he should exclude the possibility of its occurrence. In short, adenoids should on all accounts be removed as soon as their presence has been recognized—that is to say, adenotomy should be undertaken not only as a curative, but especially as a prophylactic, remedy.

If this method of proceeding be adopted, there are two questions which may arise:

1. When may the general practitioner make a conjectural diagnosis of the existence of adenoids?

2. What size should the growth have attained before its removal is indicated?

The probable existence of adenoids may be diagnosed by paying due attention to the presence or absence of the numerous resulting conditions mentioned above.

If, for example, a child suffers from frequent colds in the head with the accompanying symptoms of hypersecretion and nasal obstruction, the condition may be usually ascribed, not to primary disease of the nasal mucous membrane, but to inflammation of an enlarged pharyngeal tonsil. If the child is restless at night, snores, and sleeps with its mouth open, it is more than probable that adenoids exist. The doctor is, further, quite justified in making this diagnosis, if the child presents the characteristic facial expression above described, if there are glandular swellings in the neck, if the ears are affected, or if any other of the described symptoms exist, because adenoids are almost the exclusive cause of such conditions in children.

The child's speech should also be noted; children with obstruction to nasal respiration are unable to pronounce certain letters, especially *m* and *n*.

It has already been stated that angina of the pharyngeal tonsil is commonly mistaken for other diseases. This affection, if diagnosed, is of course conclusive proof that the tonsil is of pathological dimensions.

In considering the second question, it should be remembered that the general practitioner is only in a position to diagnose the existence of adenoids by the harmful influences which they exert, and that therefore the diagnosis of their presence is in itself sufficient proof that they have reached a size which warrants their removal. In doubtful cases the experienced rhinologist will have to consider the relation which the

size of the adenoid mass bears to that of the naso-pharynx; the age of the child should also be taken into account, because experience teaches us that a spontaneous involution of the growth tends to occur at puberty. He must further consider whether the advantages of waiting may not be more than counterbalanced by the occurrence of some of the injurious results mentioned above.

The only contra-indications to the performance of adenotomy which need be considered are the existence of an acute infection of the adenoid mass or any of the surrounding parts, the coincident occurrence of any febrile or serious general disease, or the existence of an infectious disease in the patient's immediate neighbourhood. Under certain circumstances, leukæmia, or a hæmophilic diathesis, may be considered contra-indications.

Conditions of ill-nourishment, anæmia, chronic disturbances of digestion, etc., may not be looked upon as contra-indications, because experience teaches us that such conditions show a much greater tendency to improve than to get worse after this little operation has been performed. Blood examinations have shown that the condition of the blood improves after adenotomy, there being an increase in the amount of hæmoglobin and a diminution in the number of white blood-corpuscles present.

The indications for adenotomy are somewhat different in the case of adults and older children.

In the former we may wait for the spontaneous involution of the growth, provided there are no contra-

indications to our adopting such a course. Among such contra-indications may be mentioned a relatively small naso-pharynx, considerable obstruction to nasal respiration, marked abnormality in either the quantity or the quality of the mucous secretion, frequent inflammatory attacks in the upper respiratory passages, or a complicating disease in one of the neighbouring organs.

It is, of course, advisable to let the final decision rest with a specialist in cases of this kind.

Adults usually suffer less from respiratory obstruction than children, as a certain amount of involution of the growth has already set in, and the naso-pharynx is also relatively larger. On the other hand, they often suffer more from the excessive mucous secretion; and in singers the damaged resonance interferes with the quality of the voice.

Adenoids in singers should always be removed, no matter how insignificant in size, because anything which leads to obstruction of the nasal passages is bound to interfere with the resonance of the voice.

An unaccountable idea exists amongst singers that the removal of adenoids is liable to injure the voice. This should be energetically refuted, because evidence is abundantly forthcoming to prove that such is not the case. Intelligent singers state rather that the voice acquires a fuller and a richer tone, and that they sing with greater ease after the performance of this operation—facts which are theoretically very easy to explain. It is hardly necessary to add that there are

no authoritative records to prove that adenotomy exerts an injurious influence on the voice.

It is clear that such an indication for adenotomy is only applicable to those individuals whose vocation demands a special use of the voice. In other cases pressing indications are usually absent, though the patient may suffer some discomfort and injury to his health as a result of the nasal obstruction and increased mucous secretion.

In such cases adenotomy is also to be recommended, the necessity for its performance varying, however, with the severity of the patient's symptoms.

The only really effective treatment is a surgical one.

A full description of the methods employed in performing adenotomy would be out of place here, because the general practitioner has not at his disposal the experience and technical training necessary for the proper performance of this operation. A few suggestions will, however, be given.

At the first glance this operation looks very simple. This is especially the case if we consider it to consist in the performance of a few scraping and levering movements in the naso-pharynx, and the removal of a few insignificant shreds of tissue. It is, however, not quite so simple if by it we understand the complete removal of the growth, in the shortest possible time and with the utmost protection to the patient.

This operation is frequently performed in a deficient manner by practitioners who lack the necessary experience, a fact which has brought it into discredit in the

eyes of the public, who now believe that adenoids tend to recur after removal. Adenoids, when completely removed, very rarely tend to recur, and then only in early childhood. Recurrences in children over six years of age or in adults can only be due to the fact that the greater mass of the growth was not removed at the time of the operation.

Adenotomy is at present most frequently performed with a ring-knife or curette. Beckmann's and Kirstein's curettes are the most useful of the older type of instrument. Gottstein's curette is not to be recommended, because, owing to the triangular shape of its fenestra, the growth gets pressed away from the knife, and only small portions are removed.

All these curettes have a straight handle, as a result of which the operation is rendered more difficult, and, indeed, often impossible.

In order that the knife may reach all parts of the pharyngeal roof, it should be capable of describing a large curve in the naso-pharynx. This curve must be executed by the handle of the instrument, where it passes anteriorly between the teeth, and is very often rendered impossible by the narrowness of the space which exists between the open jaws. In order that the excursions of the knife in the naso-pharynx may be as large as possible, the movements of the handle should take place without hindrance outside the line of the teeth. To meet this requirement I have devised an adenotome the shaft of which presents a lateral rectangular bend (Fig. 37).

This instrument possesses the further advantage

that the operator's hand is enabled to act with greater freedom and power, owing to the firmer and more comfortable grip which it obtains of the handle.

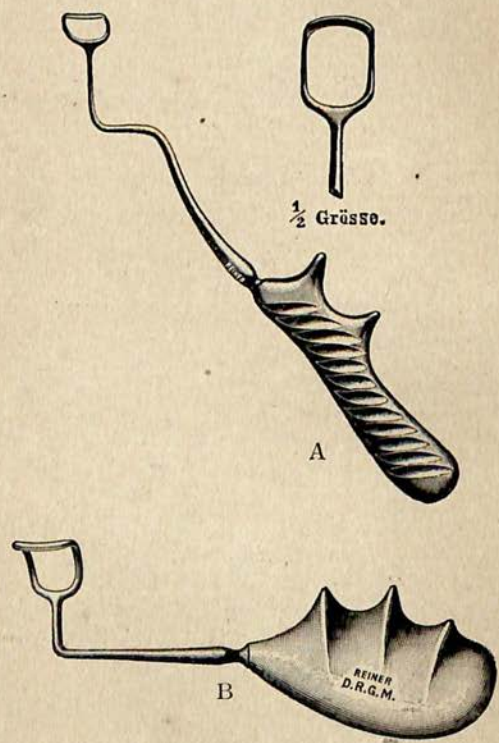


FIG. 37.—FEIN'S ADENOTOME.
A, Old model ; B, new model. (One-third of actual size.)

An anæsthetic is not necessary, because the operation, when skilfully performed, only lasts a few seconds. There is, however, a momentary pain, because the cut is made, not through the growth, as

is the case when removing a faucial tonsil, but at its junction with the mucous membrane.

An anæsthetic is only necessary if the instrument has to be repeatedly inserted or if several instruments are used, occurrences which may, however, be quite avoided by the use of my adenotome. It may finally be necessary in the case of older or very refractory children.

The narcosis should not be deep, for if so there is a danger that the child may aspirate blood or portions of the growth. One of the disadvantages of performing the operation under an anæsthetic is that the growth is often swallowed, and may then, of course, not be demonstrated to the child's parents.

Young children can usually be reliably held by one or at most two assistants. In adults one assistant is necessary to keep the head fixed.

The method of fixation adopted is similar to that which has already been described for the removal of the faucial tonsils (pp. 73 and 169).

The child should always be in a sitting position, even if a general anæsthetic be administered.

The hæmorrhage is usually severe immediately after the removal of the growth, but always stops in a few minutes. If the possibility of hæmophilia and leukæmia can be excluded, there is not the slightest reason to fear the occurrence of a secondary hæmorrhage.

The pain from the wounded surface soon ceases, and if it is possible to get the child to sleep, it usually awakes free from pain and without any recollection of

what has occurred. At the worst, slight dysphagia may persist for one or two days.

During the days following the operation the child should be frequently made to blow out each side of the nose, in order to remove any blood-clot or any loose remains of the growth which may be present.

Rest in bed is only necessary immediately after the operation.

On the day of the operation the child's nourishment should consist of iced milk, and on the following day of soft, cool foods. On the third day the normal diet may be resumed, though anything which might cause local irritation should be avoided.

The nose should not be stopped with cotton-wool. Neither water nor any disinfecting lotion should be sniffed up the nose, and naso-pharyngeal insufflations should be avoided. A special warning must be given against the injection of any fluid through the nose, having regard to the danger of causing a middle-ear inflammation. Such forms of treatment have not the smallest value, and may only do harm.

In adults, as well as in older and more intelligent children, the adenoids may be removed piecemeal by means of a wire snare through the nose, as has been proposed by Chiari. This method may be performed quite painlessly under cocaine anæsthesia, but requires special skill and experience on the part of the operator.

In rare cases forceps or guillotine-like instruments are employed in performing this operation.

E.—Neuroses of the Pharynx.

Only a few general remarks will be made here about the neuroses of the pharynx, so that the doctor's attention may be drawn to certain significant facts concerning these affections.

They may be roughly divided into disturbances of sensibility and disturbances of motility. The former manifest themselves not alone by simple anæsthesia, paræsthesia, and hyperæsthesia, but also by an increased or a diminished susceptibility to the retching reflex.

When the patient shows a diminished sensibility in the pharynx, we should in the first place suspect the existence of some diseased condition of the central nervous system.

Paræsthesia is most often met with in hysterical or hypochondriacal individuals, or in people suffering from gout or diabetes. It may also occur in women during the climacteric, or in convalescents from severe or very weakening diseases. It may, of course, only be diagnosed by a process of exclusion after minute and repeated examination of the neighbouring parts, as this affection may be entirely due to sensations which radiate from diseased organs (nose, larynx, ear, etc.) in the vicinity of the pharynx.

These conditions have already been alluded to in the section dealing with pharyngeal catarrh, because, as there pointed out, abnormal sensations in the pharynx, which cannot be otherwise accounted for, are commonly attributed to that affection.

Hyperæsthesia of the pharynx is in itself seldom of a severe character; it is usually either the result of some neighbouring inflammatory condition, or of venous engorgement secondary to some other disease (heart disease, goitre, emphysema, the result of chronic alcoholism, etc.). The majority of those people who suffer from this affection are not, as is commonly supposed, the victims of a chronic pharyngeal catarrh, but rather individuals who are of a naturally anxious or oversensitive disposition.

The motor neuroses in the pharynx may be either of a spasmodic or a paralytic nature.

Unilateral pharyngeal paralysis is only met with as a symptom of cerebral or spinal disease.

Diphtheria is the most frequent cause of bilateral paralysis of the soft palate. It is the result of a neuritis, and the prognosis is favourable even if no treatment be adopted.

Unilateral paralysis may be diagnosed by the fact that the palate is drawn towards one side, and bilateral paralysis by the immobility of the palate during phonation or when it is touched. The most important results of this paralysis are a nasal speech (rhinolalia aperta) and disturbances of nutrition; the latter are due to food entering the naso-pharynx during deglutition.

Pharyngeal paralysis sometimes occurs in hysterical individuals. Spasm of the pharyngeal muscles is also a frequent manifestation of hysteria (globus hystericus).

Tonic and clonic spasms of the pharyngeal muscles may occur in all central nervous diseases.

F.—Foreign Bodies.

Foreign bodies (pieces of bone, bristles, fish-bones, tobacco, etc.) are only found to be actually present in the throat in one out of every hundred cases in which their presence has been asserted by the patient. This fact should not be attributed to any special difficulty which exists in the discovery of the foreign body, but rather to the frequency with which patients are erroneously led to believe that such is present in the throat.

There are two circumstances which explain the frequent occurrence of such mistakes. In the first place, it constantly happens that a foreign body is either swallowed or expectorated immediately or shortly after it has lodged in the throat, though not before it has caused a slight injury to the mucous membrane. To this latter circumstance and the sensations to which it gives rise may be attributed the patient's persistent belief in the presence of the foreign body. In the second place, it frequently occurs that catarrhal and other inflammatory conditions in the throat are accompanied, especially in their early stages, by no other sensation than that of a foreign body in this region. If, now, the patient first happens to notice this sensation at a time when he is cleaning his teeth, eating fish, or smoking, etc., he is very apt to attribute it to the presence in his throat of a bristle, a fish-bone, or a piece of tobacco, as the case may be.

In either case the doctor may do much to relieve his patient's anxiety by making a careful examination

of the parts, and giving an explanation of the real state of affairs. The greatest importance should, however, be attached to the words 'careful examination.' The discovery of small foreign bodies, such as bristles and fish-bones, is often a matter of great difficulty, requiring both care and patience on the part of the examiner. These bodies may be almost invisible, though lying on the mucous membrane, or they may be deeply embedded in its substance, with only a minute part protruding. Every part of the pharynx should be repeatedly explored, and, while doing so, it should be remembered that the most usual position in which pointed foreign bodies locate themselves are the base of the tongue, the faucial tonsils, and the tonsillar surfaces of the palatal arches. The patient's assertion that he always feels the pain at a certain place (especially on swallowing) may often, but not always, give a clue as to the direction in which we should direct our attention.

This localization of the pain is often very apt to lead the doctor astray, because, as already stated, our power of localizing sensations in the throat is a very feeble one. It frequently happens, for example, that sensations which arise in the soft palate are referred to the larynx, and that pain in the epiglottis may radiate to the ear; it even occurs that sensations of the right side are confused with those of the left. It is important to be aware of this fact, in order that the patient's statements may be estimated at their proper worth.

The investigation should, of course, be carried still

further if the examination of the oro-pharynx has given negative results.

It is not possible for the examining doctor to exclude the presence of a foreign body in the throat unless he is capable of making a thorough examination with the mirror of all parts of the pharynx and larynx.

It is therefore essential that such an examination should be undertaken if the patient continues to complain, or if the circumstances of the case point to the very probable existence of a foreign body.

The passage of bougies, probangs, or similar instruments, the action of which cannot be visibly controlled, should in all cases be rigorously avoided until at least one examination with the mirror has been undertaken.

One such examination is usually sufficient to locate the foreign body and render its removal both safe and easy, while blind digital examination, or the use of the above-mentioned instruments, may lead to the most serious consequences. Sharp objects (pins, bristles, fish-bones, bony splinters, etc.) may by this means be driven still deeper into the tissues, and thereby result in phlegmonous inflammation, perforation of another organ, or injury to a bloodvessel. They may also be responsible for loosening the foreign body, as a result of which it may fall into the larynx, or even be aspirated into the deeper respiratory passages.

In any case, the difficulty in the subsequent discovery and removal of the foreign body will for two reasons be considerably increased: on the one hand the patient will be more restless and frightened, and

on the other the foreign body will be found more deeply embedded in the tissues.

If in such cases a specialist be not at hand, it is much safer to wait than to act in a hasty or daring manner. There are no grounds for believing that the patient will thereby run a risk of choking; such a danger only exists when a voluminous body (for example, a piece of meat) becomes impacted in the entrance to the larynx. Spasm of the glottis, either as a result of swallowing the wrong way or of the aspiration of a foreign body, never leads to suffocation.

A reference shall only be made here to the marked success which has attended the new methods of œsophagoscopy, tracheoscopy, and bronchoscopy (Killian, H. v. Schrötter, Brünings, and others), for the discovery and removal of foreign bodies.

G.—New Growths in the Pharynx.

Almost every variety of tumour may be found in the pharynx; they are, however, not of common occurrence.

Papillomata are met with most frequently. They are pedunculated growths, and are commonly found on or about the uvula; they are sometimes so intimately connected with this structure that their presence may be easily overlooked. They should only be removed when they give rise to unpleasant sensations in the throat, which, however, is very seldom the case. When removing such a growth it should be held securely with a forceps, and then cut off with a sharp scissors. The hæmorrhage is usually insignificant.

Malignant tumours—carcinoma and sarcoma—are recognized and treated on general surgical principles.

H.—Diseases of the Larynx.

Much experience and a good knowledge of the technique of laryngoscopy are necessary for the diagnosis and treatment of laryngeal diseases; it follows, therefore, that the general practitioner cannot be expected to have an extensive knowledge of such matters, and that they need only be very shortly dealt with in a book of this sort.

When discussing the diseases of the larynx, we shall not—as in the case of the pharynx—attempt to classify them according to the most pronounced symptoms which they present. Such a classification would serve no purpose, because those symptoms which direct the doctor's attention to the existence of a laryngeal affection are common to most diseases of the larynx.

The general characteristics of all laryngeal diseases will first be considered, and then a few practical hints will be given regarding the differential diagnosis of some of the most frequent of these affections.

Those who wish for further information should consult a textbook on laryngology.

The following are the commonest symptoms met with in diseases of the larynx:

1. Disturbances of phonation.
2. Respiratory troubles.
3. Pain in the region of the larynx.

If a patient complains of a disturbance or an altera-

tion of his voice, it must be concluded that his larynx is in some way affected. By an alteration of the voice is here meant any form of hoarseness, from aphonia up to the almost imperceptible vocal disturbances experienced by singers.

It is necessary to lay stress on this fact, because its importance is not generally realized, and because a failure to appreciate it may have very serious consequences for the patient.

Patients are constantly met with who complain of hoarseness, and who, either of their own accord or at the instigation of a doctor, attribute this condition to a pharyngeal catarrh. Examination, however, reveals the existence of a serious laryngeal disease. Such mistakes on the doctor's part may be avoided if he remembers that hoarseness is in itself significant of laryngeal disease.

I shall not here attempt to describe the characteristics of the different forms of hoarseness met with in various laryngeal diseases. No description in words would be adequate to convey a true impression of these sounds to the reader, and their correct interpretation is often a matter of difficulty for the laryngologist.

Hoarseness has, however, a further importance, because it often forms the earliest symptom of some serious disease which is not situated in the larynx. In such cases the hoarseness is directly due to some form of vocal paralysis, and may be found accompanying various diseases of the spinal cord (tabes, syringomyelia), aneurism of the aortic arch, mitral insufficiency, mediastinal tumours, or carcinoma of the œsophagus.

It should not, however, be concluded from the facts just stated that every disease of the larynx must of necessity be accompanied by hoarseness, and that the absence of this symptom is sufficient to prove that the larynx is healthy. Many serious diseases of the larynx may be so localized that they run their course without in any way affecting the mechanism of phonation. It is also possible for a severe vocal paralysis (paralysis of the posterior crico-arytenoid muscles) to exist without causing any alteration of the voice.

Respiratory difficulties accompanying diseases of the larynx are usually due to a contraction of the laryngeal lumen, and manifest themselves by the occurrence of stridor. It is seldom possible to differentiate tracheal from laryngeal stenosis by observing the characteristics of the accompanying stridor. It may, however, be roughly stated that in cases of laryngeal stenosis the patient holds his head backwards, the respiratory difficulty is most marked during inspiration, and is accompanied by depression of the larynx. In tracheal stenosis, on the other hand, the patient holds his head forwards, the respiratory difficulty is greatest during expiration, and the larynx remains almost immobile.

Stenosis of the larynx may be due to external pressure (new growths, goitre, etc.), though it is seldom very marked, such pressure, owing to the resistance offered by the laryngeal walls, tending rather to cause bodily displacement of the larynx. The walls of the trachea are, on the other hand, less resistant, and stenosis often results from pressure applied to this organ externally.

Stenosis of the larynx may further result from the presence of intralaryngeal growths and swellings, from membraneous or other deposits, from fibrous adhesions, or from the presence of a foreign body in the larynx. It may finally be due to a complete paralysis of the recurrent laryngeal nerves, a condition which renders it impossible to abduct the vocal cords.

Congenital malformation—as, for example, the existence of a laryngeal web—may very rarely be the cause of laryngeal stenosis.

Laryngeal stenosis may, as is well known, develop in a very insidious manner, unaccompanied by any marked respiratory embarrassment. The latter will, however, quickly arise should the patient acquire an acute laryngitis, or should his demand for air be for any reason suddenly increased.

Pain as a symptom of laryngeal disease may occur either during the act of deglutition, of respiration, or of phonation. Sometimes it may be produced by pressure applied to the exterior of the larynx; it is very rarely continuous.

If the pain is most marked during deglutition, it is almost always due to some diseased condition about the upper parts of the larynx (epiglottis, or the region of the arytenoid cartilages). Such pain is due either to particles of food coming into contact with the diseased area, to contraction of the pharyngeal muscles, or to the pressure exerted by the base of the tongue.

When the pain is most marked during phonation or respiration, we should suspect the existence of an

intrinsic disease of the larynx (especially of disease of the vocal cords), though such pain may also be due to simple acute inflammatory conditions of the mucous membrane. If hoarseness is also present, it may with certainty be concluded that the pain arises from the intrinsic parts of the larynx.

Tuberculosis.

In considering the manifestations of laryngeal tuberculosis, it is of the utmost importance to remember that this disease may occur in individuals who to all outward appearances are quite strong and healthy, though such appearances may quickly change as soon as the lungs become affected.

Hoarseness is usually the first symptom of an incipient laryngeal tuberculosis. If this symptom persists for any length of time, or when present tends to increase, it is at least suspicious of this disease, especially if the individual is known to be of a tubercular disposition. The hoarseness accompanying laryngeal tuberculosis has no special characteristics. At the most, it may be said that its temporary remission speaks rather against the existence of a tubercular affection.

Respiratory difficulties only occur in the later stages of laryngeal tuberculosis. They are due either to the occurrence of extensive intralaryngeal infiltration or the formation of granulations, etc.

Tuberculosis of the larynx is very frequently accompanied by dysphagia, and the disease may be diagnosed

with tolerable certainty if this symptom be accompanied by hoarseness, and cannot be explained by an examination of the pharynx. Dysphagia and painful phonation are usually both absent if the disease is limited to the intrinsic parts of the larynx, and the tubercular infiltration does not extend to any great depth.

The dysphagia may be very severe if the disease be accompanied by perichondritis or infiltration of the extrinsic parts of the larynx (epiglottis, arytenoids, etc.).

In carcinoma of the larynx the patient complains rather of difficulty than of pain on swallowing, a fact which may be of help in diagnosing this condition from laryngeal tuberculosis.

Tuberculosis of the larynx not uncommonly occurs as a primary affection. In such cases it may be quite cured before any other organ has become infected. A secondary infection (even of the lungs) does not, however, exclude the possibility of curing the laryngeal disease.

The prognosis of this disease is fairly good, provided it be treated in its early stages—stages of infiltration and superficial ulceration—and that local as well as general treatment be adopted.

It is a great mistake to think that laryngeal tuberculosis requires no treatment owing to the simultaneous existence of any incurable pulmonary phthisis. It is far from being a matter of indifference whether the patient dies from pulmonary or laryngeal tuberculosis. The former, though protracted, is a relatively painless and endurable disease; when, however, it is complicated by laryngeal

tuberculosis, its final stages may be of a very distressing nature. Such patients will suffer the most extreme hunger and thirst rather than bear the unspeakable pain which accompanies the act of swallowing. They perish from thirst and hunger in the truest sense of the words.

Laryngeal tuberculosis should, therefore, if possible, be treated in its earliest stages, even though the lungs are also affected. If such treatment be ineffectual to cure the disease, it will at least diminish the patient's subsequent distress.

Only a laryngologist is in a position to carry out the purely local treatment adopted in these cases, and its description will, therefore, not be given here. The climatic, dietetic, and medicinal treatment is similar to that which is adopted in the case of tubercular disease of other organs. A knowledge of this treatment must be taken for granted.

A few practical hints concerning the local treatment of this disease may, however, appropriately be mentioned.

The patient should be strictly forbidden to use his voice except when absolutely necessary. It is even better if the patient quite abstain from talking even in a low voice, and use signs or writing to express his wants. Too much importance cannot be attached to this 'silence cure,' though it is seldom very practicable except in an institution. Coughing is, of course, also detrimental to the laryngeal affection, and should as far as possible be controlled.

Inhalations are not much to be recommended.

They may, however, be ordered if they give the patient relief. The vapour should be at a moderate temperature, and should not contain any substance (such as turpentine!) which is liable to cause local irritation. Physiological saline solution or a natural saline water (Gleichenberg, Ems, Vichy, etc.) may be recommended for this purpose. The inhalation should not last longer than five minutes, or be repeated oftener than once a day. The patient should remain in the house for about three hours after its use.

Gargles are, of course, powerless to influence diseases of the larynx.

The treatment of dysphagia must now be considered. If this symptom is slight, and accompanied by a feeling of dryness in the throat, the patient should be forbidden the use of foods or drinks which are liable to cause local irritation. His diet should in the main consist of lukewarm mucilaginous preparations, such as milk, etc.

If the dysphagia be very severe, local treatment should be adopted. Of such, the insufflation of orthoform has been found most generally useful. If the doctor be unacquainted with the technique of laryngoscopy, he may carry out the insufflation as follows:

The patient is directed to fold a cloth about the tip of his tongue and draw it well forward. The tube of the insufflator (Fig. 38) is now introduced into the pharynx, care being, however, taken that it does not touch the mucous membrane. While the patient continues to breathe quietly, the rubber bulb of the insufflator should be pressed with the thumb. The

pressure exerted by the latter should not, however, be relaxed until the tube of the insufflator has been removed from the mouth, and any mucus which is adherent to its distal end has been removed. If this precaution be neglected, secretion is liable to be drawn into the insufflator.

The patient should not breathe deeply during the insufflation. If this is done, the powder may be aspirated and cause violent coughing. Further, it is not likely to reach the region for which it was intended.

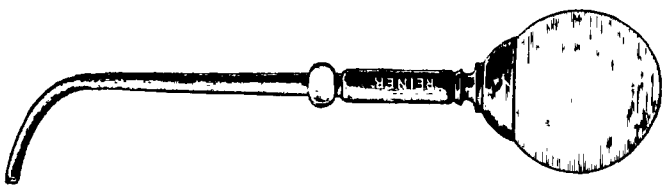


FIG. 38.—LARYNGEAL INSUFFLATOR.

To obviate such results, it is a good plan to get the patient to phonate at the moment of the insufflation.

If there is no possibility of a doctor undertaking the insufflation, the patient should be given a glass tube, and instructed how to do so himself.

The insufflation should take place immediately before each meal, as the anæsthesia produced is not of long duration. Several insufflations may be made together, so as to increase the effect; toxic symptoms are not to be feared.

°A slight anæsthetic effect may also be obtained by the injection of a few drops of a 10 per cent. solution

of menthol in liquid paraffin by means of a laryngeal syringe (Fig. 39). This should, if possible, be performed under the conduction of a laryngeal mirror.

In the final stages it is usually necessary to use cocaine or one of its substitutes, of which the best is alypin. A few drops of a 5 to 10 per cent. solution should be injected with the laryngeal syringe im-

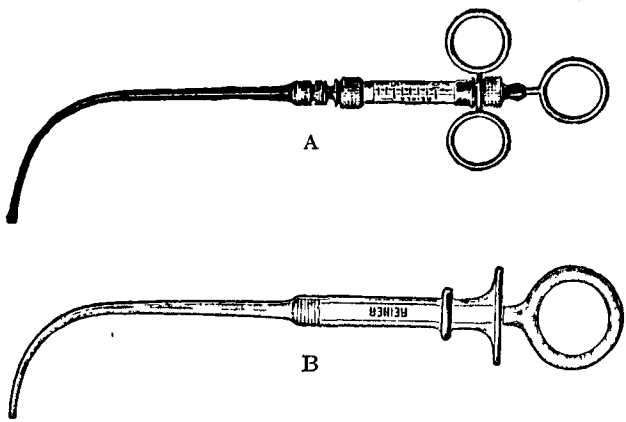


FIG. 39.—LARYNGEAL SYRINGES.
A, Vulcanite ; B, glass.

mediately before food is taken. It is a good plan in such cases to vary the anæsthetic used.

Sometimes the dysphagia may be alleviated for a considerable period by the removal of the infiltrated parts (epiglottis, arytenoids). Recently some success has attended the use of subcutaneous alcoholic injections for the purpose of obtaining a regional anæsthesia.

Respiratory difficulty is seldom so marked as to

require any special treatment. This has been ascribed to the fact that the tubercular infiltration is so quickly followed by necrosis and ulceration that no appreciable obstruction results.

Tracheotomy is, therefore, seldom necessary. It has, however, been recommended by various authorities in the treatment of this disease for the purpose of giving absolute functional rest to the larynx.

Carcinoma.

It is only possible to diagnose cancer of the larynx by making a laryngoscopic examination. When, however, the general practitioner meets with such a case, he should at least be able to suspect its true significance.

In a lecture which he delivered before the Laryngological Section of the New York Academy of Medicine on November 20, 1904, Semon spoke as follows about the diagnosis of laryngeal cancer: 'It is of the greatest importance that laryngeal cancer should be diagnosed at the earliest possible stage of its existence. A final renunciation must, therefore, be made of the still prevalent idea that early cancer of the larynx is accompanied by serious constitutional symptoms. The general practitioner must further bear in mind that the only period at which the disease may be successfully cured by radical operative treatment is in its early stages, when the only subjective symptom present is a persistent and inexplicable hoarseness.'

This latter symptom, if occurring in a person of

middle or advanced age, should suffice to arouse the doctor's suspicion that the case is one of laryngeal cancer.

The disease in its earlier stages is unaccompanied by pain. Dysphagia is not a prominent symptom until ulceration has taken place, which is usually late in the case.

The patient's general health is also usually unaffected until the disease is far advanced.

In most cases glandular enlargement is not evident until the later stages. This symptom cannot, however, be considered characteristic of laryngeal carcinoma, as it frequently accompanies other laryngeal affections (tuberculosis, syphilis, etc.).

Even after making a laryngoscopic examination it is often impossible to diagnose this disease with certainty, especially in its earlier stages. In doubtful cases a portion of the growth should be excised and subjected to microscopic examination.

As regards treatment, it is only necessary to remark here that a cure may often be obtained by operative measures.

Removal of the growth by endolaryngeal methods very rarely gives a permanent result.

Thyrotomy—opening the larynx by a longitudinal incision in the middle line of the neck—offers a much better prospect of completely removing the growth. The same, of course, applies to the partial or complete excision of the larynx.

Life may be prolonged many years by the perform ance of one of these operations.

Tracheotomy is very often necessary owing to the resulting laryngeal stenosis.

The disease often progresses very slowly, the patient's general appearance not being such as to suggest the existence of any serious affection. Patients with laryngeal cancer frequently live as long as five years, even though no local treatment has been adopted.

The mortality following total extirpation of the larynx was formerly very great; it has, however, been considerably diminished of late by the adoption of Gluck's modification of this operation, which consists in stitching the divided trachea to the skin of the neck. This renders it impossible for the upper air-passages to communicate with the trachea, the risk of septic pneumonia being thereby removed. Patients who are operated on in this manner lose the power of normal speech, though a sort of phonation is still possible.

The use of an artificial larynx has not given very satisfactory results.

Syphilis.

In the absence of a specific history, and without a laryngoscopic examination, it is quite impossible to diagnose the presence of a syphilitic lesion in the larynx. When, however, such a history is combined with laryngeal symptoms, especially hoarseness, it is probable that the larynx is affected by this disease.

Secondary and tertiary syphilitic manifestations are met with in the larynx. The presence of cicatrices points to the previous existence of syphilitic laryngitis.

In treating syphilitic affections of the larynx, it is of the utmost importance that local as well as general treatment be adopted. Secondary lesions, which tend to heal up readily under such combined treatment, are liable to result in ulceration and deep destructive changes if local treatment be neglected.

This applies even more markedly to gummatous inflammations, which in many cases invade the surrounding parts or cause necrosis of the cartilage.

These destructive changes are responsible for the subsequent formation of intralaryngeal adhesions and cicatricial bands. The resulting stenosis may be so great as to necessitate the performance of tracheotomy.

Such troublesome and even dangerous results will not arise if suitable local treatment be adopted. It is clear from its very nature that such local treatment can only be carried out by a laryngologist.

It is, however, the duty of the doctor treating such a case to make sure that the patient by his mode of life does not expose himself to any influence which might aggravate his condition. The patient should be forbidden to use his voice except when absolutely necessary, or to be present at noisy or smoky gatherings. Alcohol and tobacco should be reduced to a minimum. Bad forms of this affection are only met with in individuals who expose themselves to such injurious influences, and therefore more frequently in men than in women.

Scleroma.

This affection was formerly known as rhinoscleroma, because it was generally supposed to be entirely localized in the nose. It is now known, however, that it may also affect the pharynx, larynx, trachea, and bronchi. The disease is due to infection with Frisch's capsule bacillus. Attempts at inoculation (either on human beings or animals) have so far proved unsuccessful.

It is endemic in Russia and the Balkan Peninsula. Sporadic cases, however, occur all over Europe. In Germany and Austria it is most frequently met with in those countries which belonged to the former kingdom of Poland (Galacia, Posen), a fact which is probably due to their close proximity with Russia. It is also not uncommonly met with in Hungary.

Only a few hundred cases have been diagnosed up to the present. The danger of infection is not very great.

It is seldom possible for the general practitioner to make a sure diagnosis of this affection, especially as such a diagnosis must always be confirmed by histological and bacteriological examination.

Mention will only be made here of a few of the most striking and characteristic symptoms.

The external parts of the nose appear broadened; this broadening is especially marked in the region of the alæ nasi. The skin of the nose is bony hard, especially about the nasal aperture. Solid, coarsely-lobulated, reddish tuberosities may be seen growing from the walls of the nasal vestibule.

A

B

C

FIG. 40.—CHARACTERISTIC APPEARANCES OF THE NOSE IN RHINOSCLEROMA. A and B, Cases of my own; C, after Hochenegg.

The base of the uvula appears to be distinctly drawn upwards towards the naso-pharynx, though the surrounding parts may appear quite normal.

Hoarseness and respiratory difficulty (stridor) may be very persistent symptoms.

Each of these symptoms, or a combination of several of them, should excite suspicion of this disease, especially if the patient has come from a country where it is known to be endemic.

The treatment adopted aims at keeping the various air-passages patent, either by mechanical dilatation or some other form of surgical interference.

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